



Variation in Human Dentition.

By JOHN HUMPHRIES, M.D.S., Birmingham, England.

Read before the American Society of Orthodontists, at Philadelphia, October, 1902.

The dentition of typical mammals is represented by the formula:

In.	$\frac{3-3}{3-3}$	C.	$\frac{1-1}{1-1}$	P. M.	$\frac{4-4}{4-4}$	M.	$\frac{3-3}{3-3}$	Total	44.
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This was characteristic of the beasts of the Eocene period, whose clumsy bodies and low intelligence were unfitted for the time when the struggle for existence became more intensified, and so we find the mammals, of the succeeding Miocene and Pliocene times, more specialized in body and limb, with greater cranial capacity, and teeth diminished in number, but well adapted for their altered environment.

Dentition of Beasts.

Hence in studying the teeth of existing creatures, we must bear in mind, that they are the result of evolution, extending backwards over an enormous period of time, and they tell the story most eloquently of the successive stages of their existence, and how by the loss of one tooth and the modification of another, they have been able to hold their own and survive to the present day.

We see illustrations of this in the wart-hog where the enormous development of the canines has effected a reduction in the molar series,



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which in the adult animal is represented by In. 3, a tooth of abnormal proportions, all the premolars and molars having been removed.

The absence of incisors and canines in the upper jaw of ruminants is explained by the link supplied by the guanaco and camel, where a pair of rudimentary incisors occupy the inter-maxillary bone and in close proximity are a pair of small canines.

But the dichodon and the dichobune, which were probably the ancestors of the ruminants, and existed in Eocene times, possessed the archetypal formula, all the teeth being present in both jaws, without break in the series. The molars possessing the selenodont characteristics of true ruminants.

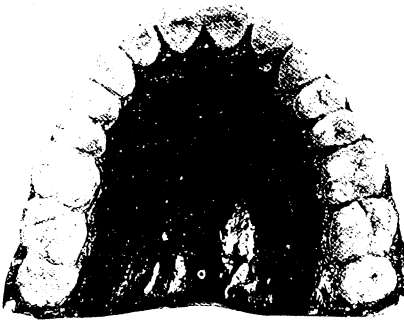


Fig. 1.



Fig. 2.

The functionless first premolar in the horse, which is lost in early life, is suggestive of its descent from the eohippus, in which the premolars and molars were of brachydont patterns with short roots, and when in course of time they assumed a hypsodont type, the first premolar became gradually more and more degraded, and seems likely to disappear altogether in the modern horse.

The dentition of the bear is fast being reduced by the degradation and loss of the premolars, and in many domestic dogs, as the pug and the bulldog, the third lower molar is often missing.

The tiny pair of teeth behind the scalpriform incisors in the hare and the rabbit also testify to the elongation of its jaws to the specialization of the remaining pair, which alone occupy the intermaxillary bone in the rodents, the other two parts being suppressed by loss of room and disuse, one pair still persisting in the group, leporide, in a rudimentary form, illustrating the evolution of the rodent.

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Human dentition is represented by the formula,

Dentition of Man.	In. $\begin{array}{c} 2-2 \\ 2-2 \end{array}$	C. $\begin{array}{c} 1-1 \\ 1-1 \end{array}$	P. M. $\begin{array}{c} 2-2 \\ 2-2 \end{array}$	M. $\begin{array}{c} 3-3 \\ 3-3 \end{array}$
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showing a loss of a pair of incisors and two pairs of premolars in each jaw, and this is true likewise of all the higher apes.

In examining the skulls of a great number of domestic dogs some years ago, I was much impressed by discovering in ten per cent of the cases, the missing third upper molar, either in a rudimentary condition, or enclosed in its crypt, restoring it to the archetypal formula of the amphicyon, the probable ancestor of the canidæ, and I forthwith determined to accentuate as much evidence as possible on the missing teeth in man. Part of the result of my labor was a joint paper by my col-

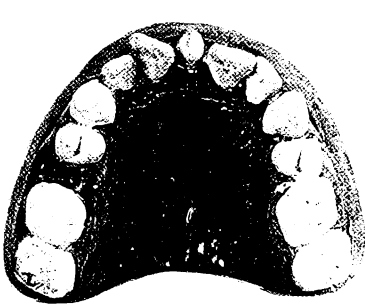


Fig. 3.



Fig. 4.

league, Professor Windle, and myself, on "Man's Lost Incisors," read before the British Association in 1886 at their meeting in Birmingham, and since that time I have steadily collected casts bearing upon the subject, and when your president, Dr. Angle, did me the honor to ask me to read a paper before the American Society of Orthodontists, I determined to send you my notes upon a matter which has greatly interested me, illustrating it with photographs which have never yet been made public.

Dr. Charles Tomes states that "if we wish to find an absolutely typical human dentition, we should go to the lower races," in which generally the teeth are well formed and arranged in sweeping curves, with no sign of irregularity or lack of symmetry.

If we compare Fig. 1, the upper jaw of a typical Zulu, with Fig. 2, a well-formed European, we should see at a glance the difference in size of the teeth, the greater sweep of the curve in the Zulu, together with the increased alveolar development.



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But it is quite unusual at the present day to find perfect symmetry in the higher races of mankind, due to the decreased and decreasing size of the maxillary bones, brought about largely by disuse, from the more thorough cooking of food, and the consequent atrophy of muscle and bone, from imperfect mastication, and hence we meet with an ever increasing number of irregularities of the teeth.

Another factor in the lack of symmetry is caused by the presence of additional teeth beyond the normal number, more usually found in

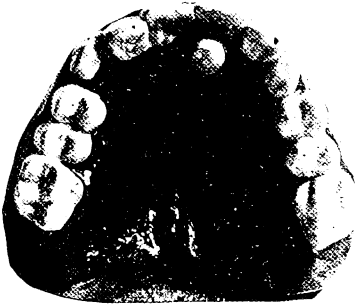


Fig. 5.

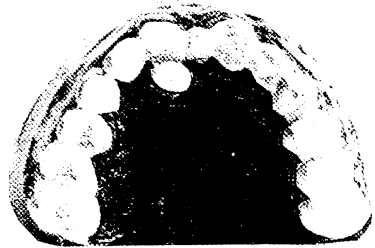


Fig. 6.

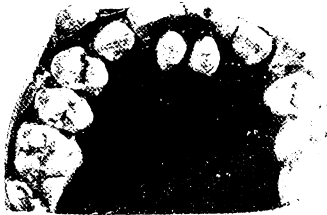


Fig. 7.



Fig. 8.

the incisor region, and may be divided into two classes, supernumerary and supplemental.

Supernumerary teeth are usually of a conical form, though some bear faint traces of cusps. Teeth in a state of degeneration generally assume a conical shape, such as the upper wisdom and lateral incisors in man, which in many mouths appear as cone-shaped pegs. The third lower molar in the dog and the whole of the molar series in the aardwolf of South America, which feeds upon carrion, are reduced to simple cones; therefore it would appear that prior to total suppression teeth revert to

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the conical shape. Generally speaking the other teeth are more or less disturbed when supernumerary or supplemental teeth are present.

Fig. 3 shows a conical supernumerary erupted in the median line, twisting the right central and slightly displacing the left central.

In Fig. 4 the supernumerary tooth has also appeared between the centrals, pressing forward the right central.

Fig. 5 is an illustration of one of the commonest forms of supernumerary teeth being produced in the palate behind the left central incisor, in no way interfering with the arrangement of the teeth.



Fig. 9.

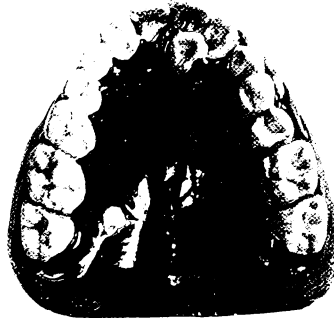


Fig. 10.



Fig. 11.



Fig. 12.

In Fig. 6 is seen a pair of conical supernumeraries, the one occupying the median line between the incisors which it has forced apart and the other behind the right central.

Fig. 7 shows a contracted upper dentition, further distorted and crowded by a pair of conical teeth, behind the central incisors.

In Fig. 8, a conical supernumerary appears behind the left central incisors, while the right side is much disturbed by a supplemental incisor, which has erupted in the median line, and displaced the right central and lateral incisors and the canine.

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In Fig. 9, a pair of supernumeraries are pressing outwards the central incisors; they are of unusual form, having minute cusps upon their surfaces, giving them a slight molariform appearance.

Supplemental teeth in every respect imitate the lateral incisors, both in shape and size, and it is almost impossible in many cases to say which is the normal and which the additional tooth, so close is the resemblance.

Fig. 10 shows a supplemental incisor behind the central, but the symmetry of the teeth is not affected by its presence.

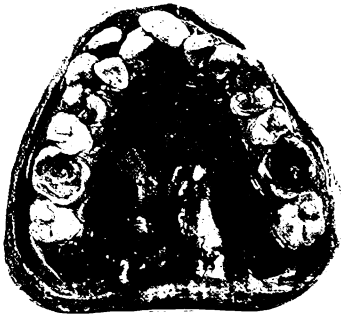


Fig. 13.

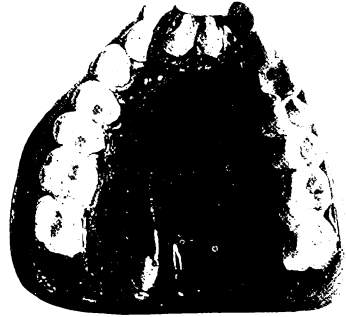


Fig. 14.



Fig. 15.



Fig. 16.

In Fig. 11 an additional incisor is present on the left of the mouth whose presence would hardly be suspected, as it is in line with the others, which are not displaced or twisted.

Fig. 12 exhibits a supplemental left incisor in lower jaw in line with the others, but the canine has been pushed outwards by the additional tooth.

Fig. 13 suggests a return to the archetypal mammalian dentition in the upper jaw as six incisors are present. On the left the supplemental

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tooth stands side by side with the lateral incisor, but on the right the teeth are considerably displaced by the additional tooth which has erupted behind the lateral incisor.

In Fig. 14 the front teeth are considerably distorted, the centrals being forced wide apart by the presence of a pair of supernumerary incisors, which from lack of accommodation are twisted at right angles to the front of the mouth.

Fig. 15 shows a pair of supplemental incisors in the lower jaw which have appeared behind the normal incisors and mimic them in every respect.

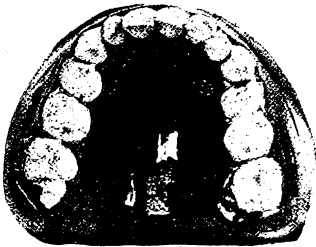


Fig. 17.

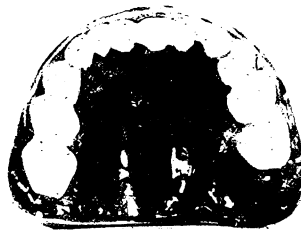


Fig. 18.

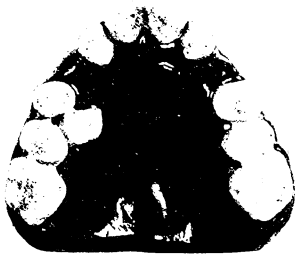


Fig. 19.

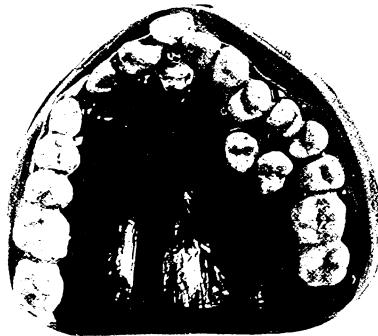


Fig. 20.

Supplemental teeth are by no means confined to the permanent dentition, for in Fig. 16 we notice a deciduous supplemental incisor on the right side of the mouth in line with the others whose presence would pass unsuspected as the other teeth are perfectly symmetrical.

In Fig. 17 an additional deciduous upper lateral incisor is present on the left side of the jaw, and like the last, it has not disturbed the other teeth, and it is interesting to know that this tooth was succeeded by a supplemental lateral incisor in the permanent set.*

*See editor's note at end of this article.

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Fig. 18 is an extremely interesting deciduous cast, in which may be seen the missing pair of upper lateral incisors side by side with the others, a return to the typical dentition In. ^{3.3} and the jaw has accommodated itself to receive the additional teeth.

The evidence of the missing premolars is extremely scanty, as compared with the incisor region, but Fig. 19 shows an additional right upper bicuspid erupted in the palate, between the two premolars, bearing a strong resemblance to the first.

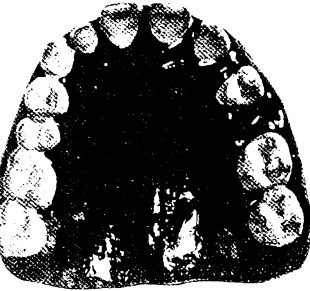


Fig. 21.



Fig. 22.



Fig. 23.



Fig. 24.

Fig. 20 is, however, the most extraordinary cast I possess, exhibiting eight premolars in the upper jaw, six occupying the left side of the mouth, four standing side by side, though rather crowded, the two others being produced inside the palate and differing but little in size and shape from one another.

The foregoing remarks illustrate "Variations in Human Dentition" due to the presence of supernumerary and supplemental teeth, but there are others due to the degradation and final suppression of the teeth.

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more especially the lateral incisors and the upper wisdoms, third molars, which interfere with the symmetry of the teeth. This is a marked characteristic with many families and occurs more frequently than we imagine.

The first indication is in the diminution in size of one or both laterals, which after a time assume the conical form and then one and ultimately both are suppressed, the incisor dentition being represented by the central incisors only.

Fig. 21 shows the right upper lateral stunted and dwarfed. The upper left is missing.

Fig. 22 illustrates a saddle shaped palate in which the teeth are crowded, the right lateral being reduced to a conical peg, while the left is absent.

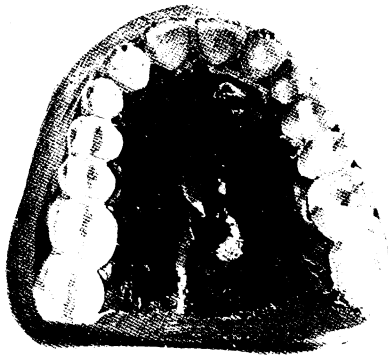


Fig. 25.

Fig. 23 shows a corresponding loss of one incisor in the lower jaw, and this, like many others, was an inherited characteristic.

Finally, in Figs. 24 and 25 we have the suppression of both lateral incisors.

We may then adopt the following conclusions:

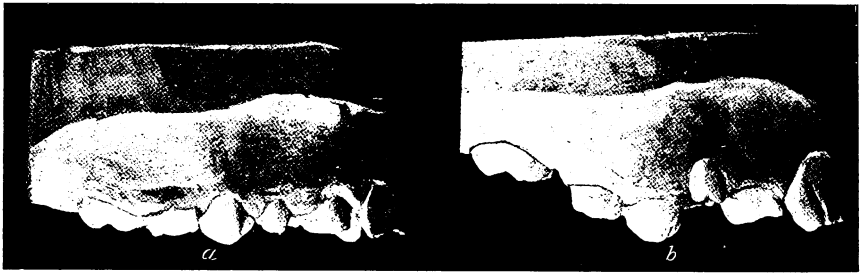
Conclusions.

1. That the conical supernumerary teeth which appear sometimes singly and at other times in pairs in the intermaxillary bone are degraded forms of incisor teeth.
2. That in both upper and lower jaws the missing incisor teeth are occasionally reproduced, either singly or in pairs.
3. That the deciduous teeth possess the same characteristics, and when present the symmetry of the mouth is not affected and the milk tooth is sometimes succeeded by a permanent supplemental incisor.

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4. That one or other of the missing premolars occasionally reappears and bears a strong resemblance to the normal bicuspid.
5. That there is a tendency to a diminution in size, and a degradation in shape to a conical peg of the lateral incisors and upper wisdom teeth.
6. That in civilized man, the lateral incisors will probably ultimately disappear.

(The illustrations A and B, from casts in the editor's collection, are introduced in corroboration of the author's statements in relation to his Fig. 17. Fig. A shows an additional deciduous lateral incisor, and Fig. B is from a later cast of the same mouth showing its successor in the



permanent set. In both instances the teeth were normally well formed. It is of interest to add that the child was born with hare-lip but no cleft palate.—Editor.)

Discussion.

Dr. Littig. In considering the paper, without seeing the photographs, I fear the essayist has attributed to a decline in the race what we attribute to inheritance. For instance, I know that in my own family the laterals in a number of individuals have never appeared. In two of my sisters the laterals were lacking, and in one of my daughters, so that I consider that as much a matter of inheritance, as the case of a man I saw with two fingers united, who claimed that there was always one such deformity in the families for generations back. I think the essayist has taken some family type and misinterpreted that as a retrogression of human dentition. However, you know it has always been claimed that by environment people or ani-

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mals change; for instance, if it was necessary for the rabbits to climb the fences of Australia to get into the gardens, that they would grow nails for that purpose. But I have never been able to see anything of this character otherwise than as a family inheritance.

There was one statement made by Dr. Humphries that I think was successfully contradicted yesterday by Dr. Cryer, in speaking of degeneracy from high living; that is, the gradual loss of the teeth. In one of Dr. Cryer's slides made from a recent specimen, he called that to mind. I think it is well to remember that. It is rather encouraging to feel we are not degenerating as rapidly as many of our profession would have us think.

It is of course difficult to discuss properly a paper of this kind, in which the essential part is pictures that unfortunately we cannot show; but as I have given some thought and study to the subject of supernumerary teeth and how to account for them, I will say a word, especially as the paper touched upon a point on which I am doubtful. It has always seemed to me that to account for supernumerary teeth by saying they are a reversion to a remote ancestral type is a very far-fetched reason, involving such vast periods of time as to be very doubtful. It is supposed that man has existed as man, organized practically as he is at present, anywhere from twenty thousand to thirty-five thousand years.

It may be interesting and perhaps surprising to know that upon some section or other of the earth to-day there are representatives of every race and degree of civilization from the earliest days of the cave dwellers up to the highest civilization of the European and American people. There are tribes existing at present that are utterly ignorant of the use of fire; who cannot build a shelter from the storm with even the material furnished them; who have progressed so little from primitive man as not to be able to use utensils as well as the ordinary ape; and from this low condition we have every intermediate grade up to the highest civilization; yet so far as I have been able to gather from the skulls I have seen and from the study of others, the lower races possess the same number of teeth as the higher races. We cannot go back far enough among any living representatives of the race, even among those tribes that are living but little differently from their ancestors of prehistoric days, to find a regular appearance of the third incisor, or the premolars that have been lost from the complete formula.

So then, for the teeth of man of the present day to revert back to the days of a third incisor, or third and fourth premolars, the reversion must go backward over immense periods of time to the days before man was man as we know him; possibly hundreds of thousands of years. It has al-





ways seemed to me that there is some reason much nearer home than this. But after reading the paper and seeing the pictures, it certainly seems that these teeth are in some way connected with the past, and heredity seems a stronger trait than I had given it credit for; it seems all the more so as the author has not confined himself to the teeth of man, but has taken the subject up in a broad, scientific way.

I hope to secure a paper next year from one of the most eminent zoologists in the State of Iowa—or in the whole country for that matter—on this subject, illustrated by slides, and showing not only the teeth of man but the teeth of other animals as well, and illustrating how far the effect of heredity can be traced in the teeth through the ages. Anything he presents will be convincing, for besides being learned, he is a most careful and painstaking man, and what he says can be depended upon to be correct. I hope this paper, when it comes, may throw some light on this subject that has perplexed us all.

The Retrusion of Both Jaws With a Single Appliance.

By RODRIGUES OTTOLENGUI, M.D.S., New York.

Read before the American Society of Orthodontists, at Philadelphia, October, 1902.

The object of this brief paper is to place on record a principle in relation to the management of double prognathism, which I have not elsewhere seen discussed by specialists in the field of orthodontia. Briefly stated, it is that, in many cases, especially where the treatment is begun early in the life of the subject, no appliance is needed upon the lower jaw, it being possible to so form the apparatus for the upper jaw that the lower arch may be simultaneously retruded; in some instances, as in the case which I shall report, the upper natural teeth may be made to serve as an inclined plane which will carry the lower anterior teeth backwards; in others, as where the reduction of the upper arch is conducted with the mouth bit and skull cap, the mouth bit may be made to act as the inclined plane. There will, of course, be still other cases where the lower teeth will require special apparatus.

Before giving the details of the case which I
Classification. desire to present, I beg the privilege of asking for some light upon the modern doctrine of classification. It seems to be the generally accepted view that all cases of irregularities may be made to drop into definite sections of a prearranged classi-



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fication. I have no doubt that this is true. Dr. Angle has given us such a classification, and I am in accord with his scheme of making the fundamental principle an investigation of the occlusal relations. By the majority of practitioners the Angle classification has been indorsed as being entirely comprehensive. At the last meeting of this body, however, Dr. Ernest Walker questioned this fact and expressed the view that in addition to considering the occlusal relations of the teeth, if classification is to serve as a basis of adopting a scheme of regulation, it might be wise to add to this a study of the relation of the jaws to the physiognomy. Otherwise, he claimed, we must have cases in a stated class which nevertheless would require diametric modes of treatment. This view appears so logical that it has seemed strange to me that no formal expression of opinion upon Dr. Walker's proposal was made at last year's meeting.

Premising my remarks by admitting that I cannot claim to fully comprehend what the language of either Dr. Angle's or Dr. Walker's classifications mean, and thereby admitting that either or both may be entirely correct, and that it may be my own ignorance both of language and of orthodontia which creates my mental puzzlement, I ask permission to make my criticisms, explaining that I do so for my own enlightenment and not for the purpose of belittling the work of others.

The case which I am to present to you today is one in which the occlusion in the posterior regions is practically normal. In relation to the physiognomy the anterior portions of both jaws are prognathous. Analyzed, this means that the upper incisive region is protrusive in relation to the upper part of the face, while the lower incisive region is protrusive in relation to the chin; the forehead, nose, and chin are in normal physiognomic relations. I do not find myself able to place this case under any section of either the Angle or the Walker classification.

A word more and perhaps my difficulty of comprehending these gentlemen may become apparent. The object of language is, or should be, to convey thought; in scientific matters the language should be direct and readily comprehended by even young students of the science to which the language is supposed to contribute. Now I find that in describing the occlusal relations of the jaws, both Angle and Walker have adopted the terms "mesial" and "distal." They also use the hyphenated term "mesio-distal," which my mind fails to grasp with certainty. The best that I can make of this is, that by "distal" is meant the posterior part of the mouth, and perhaps this may serve. By mesial is meant the anterior, or more definitely speaking, the incisive and cuspid region. But this is only guesswork on my part, for the word "mesial" does not have any such meaning. "Mesial" means towards the median line or center. More strictly, it means at the center. Thus, if I am told that the jaws are "nor-



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inal in their mesial relation," I have a right to conceive that I am told that the median lines of the two jaws are coincident, a fact which often is not true, and which then becomes an important factor in the correction of the abnormality. If it be true then that in these classifications the word is not meant in its true significance and has no bearing upon the median line, but is used to indicate the forepart of the mouth, I respectfully submit that we should better follow the rules of surgery and employ the term "proximal" as the antithesis of the word "distal." In general surgery "proximal" means that portion of the subject nearest to the observer, and distal that point farthest from him. In regard to the hyphenated term "mesio-distal," I ask, What is meant? The combination being new to me, and I think not heretofore used by any author, I can only seek analogous language for its elucidation. In describing tooth surfaces we have, for example, used the term gingival in relation to

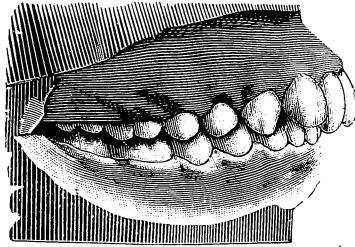


Fig. 1.

approximal cavities, to indicate that part nearest to the gingiva. From this we have the compound word "bucco-gingival," which means that point where the buccal surface meets the gingival portion of the approximal surface. Similarly we have linguo-gingival. Does mesio-distal then mean that part between the distal and the so-called mesial, let us say the cuspid region? I think the term is meant to convey the idea that would be more accurately expressed by the words "mesial" and "distal," supposing that mesial is to be used at all. "Proximal and distal" would be more intelligible. It is true—and I mention this to forestall the use of the fact as an argument—that some authors speak of "disto-approximal" cavities. But such use does not make the language correct. It should better be written distal approximal, for the idea to be conveyed is that the cavity is both distal and approximal, terms which are in no wise contradictory. Mesio-distal, on the contrary, is the union of antithesis. If the whole occlusion is meant, the hyphenated contradictory terms are superfluous. It should suffice to say "occlusion normal."

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Admitting then that I cannot classify my case, **Case from Practice.** I herewith submit it for your consideration. The patient presented with an irregularity as shown in the models. (Fig. 1.) I have so trimmed the upper and lower edges of these models that in the one the line of the base of the nose and in the other that of the chin is indicated. All forward of that represents protrusion, the child exhibiting a horrible pouting mouth. This, coupled with the irregular placement of the teeth and the parting of the lips, which exposed them constantly, created a great deformity. A study of the models showed the arches to be of normal width, and the posterior, or, if you please, the distal occlusion, normal. The necessary course, therefore, was extraction of the four first bicuspsids and reduction of both arches. My first purpose was to have operated on both jaws simultaneously, using

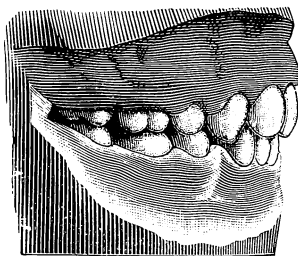


Fig. 2.

a fixture on each. The depth of the overbite, however, led me to believe that something would be gained by carrying the upper teeth back to some extent first, lest the upper cuspids hinder the backward movement of the lower cuspids. I therefore constructed an appliance for the upper arch. This consisted of a roof plate made of iridio-platinum held by clasps around the molars. To these clasps were attached the Jackson retraction wire crib, and the work was begun. By the time when the gain in the upper jaw was appreciable, I noted that the lower jaw was being simultaneously corrected, the overbite being sufficient so that the upper incisors acted as an inclined plane which carried the lower teeth backwards. The case was therefore completed with this appliance, no instrument whatever being used on the lower. The final models (Fig. 2) indicate the present condition, and show how completely the space made by the removal of four teeth has been obliterated. The irregularity of the central and lateral, observable in the casts, is slight and less apparent in the mouth than in the models. A better result was not sought in this

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locality because of an accident. The retrusion of the upper arch to some extent also regulated these two twisted teeth, much more so than would have been suspected at the outset, except by one who has had similar experiences. The retrusion being completed, steps were taken towards the rotation of the teeth, and this had been nearly accomplished when a child companion struck the little patient in the mouth with a Fourth of July horn, and so injured a tooth that I feared death of the pulp. It being then almost time for the summer vacation, I applied a retaining fixture. In the autumn the parents decided that the result was sufficiently satisfactory, in view of the interruptions of school attendance which would have been required to fully complete the work. This, however, is merely

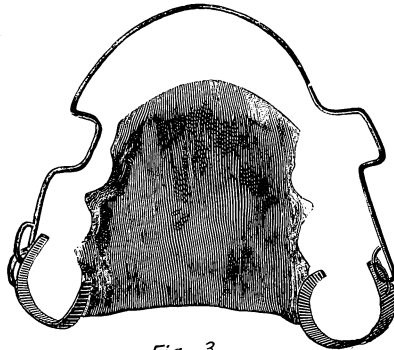


Fig. 3.

an aside, the models being exhibited as an example of double retrusion and not as bearing upon the regulation of ordinary irregularities of individual teeth.

A word in relation to the fixture utilized. In cases where I decide to work entirely within the mouth—that is to say without resort to the skull cap—I always feel that the roof plate is desirable as a help in avoiding the tipping of the molar anchor teeth. For this reason, even though I may utilize the Jackson retraction crib, I attach it, as in this case, to the clasps of a roof plate. I have found, however, that the bending of the front retraction wire from time to time, as is necessary to increase pressure, will cause a tipping of the forepart of the plate, so that it is removed from contact with the roof, thus preventing the very use for which it is constructed. With great care, of course, the wire can be so bent that the adjustment will be accurate, but, in my hands at least, this has often been a time consuming detail. More recently, therefore, I have found a means of obviating this difficulty, and the plate which I exhibit

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(Fig. 3) will demonstrate this, though it is not the plate that was used in the case under discussion. In such cases now I add to the buccal sides of the clasps small staples and the retracting wire, instead of being soldered to the clasps, is attached by a curved loop passing through the staples. In effect this method of attachment operates as a hinge, and thus the bending of the front wire in no way displaces the roof plate. I have found by experience that the loop on the ends of the wire should be large to allow free play.

I wish to add that this case was regulated five years ago and that the final models were taken during the present summer. At the outset I stated that similar results might be obtained when the use of the skull cap is considered the proper treatment. This I based upon two cases that have passed through my hands—one successfully completed some years ago and the other still under observation. In these cases the mouth bit is made to extend over the incisive edges of the upper teeth, and an inclined plane is attached to the lingual surface thereof, care being taken to make it long enough to certainly engage the lower teeth.

In all these cases the treatment must largely depend upon the extent of the overbite. Where the overbite is short, it will be necessary to attach the inclined plane to the upper fixture, because otherwise the locking of the natural teeth will be insufficient to carry the lower teeth back. Again, progress must not be too rapid. It must be remembered that the greatest strain will be upon the upper teeth, which, if the work is pushed, will be retracted so rapidly as to cease to engage the lower. It may, therefore, become essential to resort to periods of rest, the inclined plane improving the occlusion and retracting the lower teeth, while the upper teeth remain stationary. Also, I must advise that especial note be taken of the direction of the lower incisors in relation to the alveolus. If they be erect, the procedure will be safe. If, however, they tip labially, meeting perhaps in an edge to edge bite, or with but slight overhang of the upper, it will be necessary to begin work upon the lower with a separate fixture, retracting the incisors until they assume an upright position, after which perhaps they may be carried back with the upper fixture.

Discussion.

I believe Dr. Ottolengui's whole trouble, and that of some others who seem to be confused by Dr. Milton C. Watson. Angle's classification, is due to the fact that they do not understand that it absolutely separates, for the time being, the teeth from their surroundings and considers them only in their occlusal rela-



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tions. It applies as completely to the plaster teeth on a model as to the **natural** teeth in the mouth surrounded by the distorted face. It covers an abnormal condition of the teeth, but does not apply in any sense to abnormal **facial** lines, though, of course, certain types of facial deformity must and always do result from some certain classes of malocclusion. It is the position of the teeth, however, and not that of the face which governs one in classifying the case.

Class I. is described as a condition in which the molars and bicuspid are in normal mesio-distal relation—that is, these teeth are on the normal side (in their mesio-distal relation only) of the crest of the cusps of the occluding teeth, but they may be in abnormal relation to them buccolingually, or they may, perhaps, be perfectly normal in both of these relations and yet be in abnormal relation to the “line of occlusion,” and the incisors may be in any of the seven possible positions of malocclusion. This, I think, will make it clear why Class I. falls far short of *normal occlusion*.

Regarding the objection to the terms “mesial” and “distal.” Those who are teaching this classification make it perfectly clear what they mean by “mesio-distal relations,” but if it can be shown that “anterior” and “posterior” are really better terms—that they convey to the average mind a clearer conception of what is meant—then I am sure every one of us stands ready to adopt them. These terms, however, have nothing to do with the vital principle upon which this classification is based.

Dr. Ottolengui.

Will you classify this case?

Dr. Watson.

It is a case where one might easily be mistaken if he based his opinion upon a hasty examination of the models, as the teeth, on one side particularly, have almost an end to end occlusion. A careful examination, however, reveals that the cusps of the various teeth in the molar and bicuspid region are still occluding on the normal side of the crest of the cusps of the teeth in the other jaw, which clearly places the case in Class I.

I would hesitate to say positively that wrong was done in extracting in this case—not having had a chance to examine the patient. One might venture an opinion from a careful study of photographs, but the face **itself** affords the best opportunity for a study of this phase of the work. I believe there are a *very few* cases coming under the head of Class I. where, to attain the best facial results, the sacrifice of an upper and lower bicuspid on one side would be necessary. However, cases requiring the extraction of four bicuspids must be *exceedingly rare*. The extraction of an upper and lower bicuspid from one side only, of course, carries the median line of the dental arch slightly to one side of the median line of

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the face, but if the cuspid and incisors, on the side from which teeth were not removed, are carried lingually sufficiently to give the arch its natural curve, the inharmony existing between the median line of the face and that of the teeth will not be noticed, so that the argument, sometimes advanced, that "symmetrical extraction" is necessary does not hold true.

The classification presented by Dr. Walker, a year ago, has been referred to. He endeavored to so arrange a classification that it would include the abnormalities of the face in their relation to those of occlusion. This, of course, made the subject a very complex one, upon which even the men who could comprehend it would ever differ, for even artists differ in their opinions as to what represents beauty and perfect harmony in the human face.

The classification of malocclusion of the teeth and the classification of facial deformities are separate and distinct conditions and can best be studied as such, for to attempt to combine them only brings confusion to both, while, if considered apart, we can all agree upon the one touching upon occlusion even though we ever differ upon the other.

I really wish to comprehend this. I did not
Dr. Ottolengui. attack the principle; I started out by saying that I absolutely endorse the principle. Nothing could be more definite than my statement that classification based upon occlusion is a perfectly proper theory. Neither did I intimate that the words anterior and posterior are preferable to distal and mesial, except as I comprehend them. I have never understood it as presented by the last speaker, and if I comprehend it now I think it would be a great mistake to use "anterior" and "posterior." I think "mesial" and "distal" would be absolutely correct. I have never been able to get any one to explain this before, and now let me be sure that I do understand it. In this system, the terms mesial and distal refer to the occlusal relations of the cusps of the posterior teeth, more particularly of the sixth year molars, and have no bearing upon the anterior teeth, nor their occlusion. Is that right?

Dr. Watson. It is.

Now that I understand it, I am willing to admit
Dr. Ottolengui. that "mesial" and "distal" are exactly the right terms.

While the subject of classification is up for discussion, I shall try to elucidate one point further.
Dr. Brady. We may speak of the position of the jaw as mesial or distal, or anterior or posterior, or by any other name we see fit, and yet mean the same thing. Dr. Ottolengui has said it was hard for him to



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understand how we may take a certain case and drop it in a certain class, just as we would drop a peg in a hole.

Dr. Ottolengui.

I did not say that.

Possibly I misunderstood. But the point I wish

Dr. Brady.

to make is that we may call these different classes by other names than Class 1, Class 3, or the subdivision of division one in Class 2, and so on. (The Doctor here referred to charts on the wall, showing the different classes and subdivisions.)

It is my habit in speaking to students of a case to refer to it as a case of retrusion or protrusion, instead of belonging to Class 2 or Class 3, and instead of saying it is division or subdivision this, that, or the other, I say it is a case of retrusion on one side or retrusion on both sides, or protrusion on one side, as the case may be. I express exactly the same thing as is meant by Dr. Angle in his classification, but in different language, and refer to the condition by its name instead of its number.

Most of these gentlemen here have studied under Dr. Angle, and to them the number brings to mind the condition, though to others the name might suggest it more clearly. The mental picture of a thing is what we really recognize it by; the name we give it depends upon the way we have studied it; names may differ, but if the condition meant is the same, the end is the same. So we may refer to either Class 2, or retrusion, or to Class 2, division one, or retrusion of both sides, as we may see fit, and yet mean the same thing.

I would say further that in speaking of malocclusion of the teeth we consider the position of the lower jaw in relation to the upper as a whole, not in relation to one or a few teeth. In studying a case the first thing to decide is whether the lower jaw as a whole is normal antero-posteriorly, or is retruded or protruded, moved backward or forward, anterior or posterior, mesial or distal—any of the names mean the same thing.

I have quarreled with Dr. Angle—I want Dr. Ottolengui to know we are not all of one mind on some things—I have quarreled with him over the words mesial and distal, believing anterior and posterior to be better; but, as Dr. Watson has said, it is only a difference of name, not of condition.

Dr. Barnes.

It seems to me we are starting a Tower of Babel here, when one talks about Class 1 and Class 2, and subdivisions, etc., and another talks about cases of protrusion and retrusion, and so on, and they all might mean the same thing. I think Dr. Bogue hit the nail on the head when he said we are putting it into algebra. Now, it seems to me that the classification should

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be a sort of synopsis of what is to come afterwards. It should be a short definition, self explanatory, so that when we take up a subject, immediately the thought is conveyed to the listener of what the person is talking about. To my mind, this classification of Class I, and subdivisions, etc., conveys no meaning whatever. I am not at all attracted by that terminology. If the Doctor will give us a word instead of a class, it will mean the same thing. It will make the thing a little more complex, perhaps, but ought we not to have a terminology that will be accurately expressive? It is all right for one school or one system to have classes and subdivisions, because men who have learned in that school can understand it, but if others cannot, how can we go ahead? We should all agree on this one point. I am not competent to suggest a nomenclature, but I suppose such a thing is possible.

Since I have made a study of this work I have
Dr. Monroe. found it very much like a musical scale. The simplicity and beauty of it is so apparent, that I fail to see how those who have been in dentistry longer than I have, can fail to comprehend these terms as used.

I have always, ever since I made a special study of the branch associated with occlusion, that special line of occlusion upon which we base all our terms, so that when we speak of the line of occlusion, we get a very good idea of where the cusps should fall and in what position they should range themselves.

I have never been satisfied to speak of the different occlusions of the two jaws. I think that the occlusion should be confined to the one jaw that is movable. If we speak of the distal occlusion of the upper jaw, and mesial occlusion of the lower jaw in reference to the same case and vice versa, we are just confounding terms. The upper jaw is fixed. It cannot be moved, consequently the occlusion cannot change in that, except as related to the lower jaw. It applies only to the position of the lower teeth and for that reason it has appeared very simple to me and the beauty of the classification is more than apparent to me.

It seems to me that we have not quite treated
The Chairman. Dr. Ottolengui right in this matter. We have been confining our discussion to classification. He has brought us an interesting case here and nothing has been said about his method of treatment and the many points he has brought out in regard to the treatment of the case. It may be very instructive to others and it seems to me that those points ought to have been discussed and some appreciation shown for his efforts in the treatment of that case. If any one has any comments of that character we will be very glad to hear them.



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Dr. Bogue.

I did not hear the paper, but I saw the models. I hope next time the Doctor will bring models open at the back so that we can see the case better. I think if hinges were put on the extreme sides and the models left entirely open in the middle a good view could be had of the occlusion on the lingual sides.

I think I have never seen a case in which extraction has been practiced where the resulting occlusion when the case was finished seemed as good as this does, judging from the outside. No one can tell whether there has been much rotation or not, but externally it looks as though there had been much less rotation than usual, and, as I said before, a better outside occlusion I have never seen where extraction has been practiced. But unless the patient had a marked deformity of countenance due to the protrusion of these teeth, and unless the patient was an adult, I don't see how Dr. Ottolengui dared take out those four bicuspid.

Dr. Ottolengui.

What would you have done?

Dr. Bogue.

"What was the age of the patient?"

Dr. Ottolengui.

Twelve years.

Dr. Bogue.

I should have thought that the patient should have twelve more years of growth, waiting until more matured to see what the contour of the face should be. I should think with that added growth—Nature never makes a mistake—there would have come development anterior and posterior as well as over and above and downward as was evidenced in the case passed around yesterday, to such an extent as to harmonize the features with the teeth, which had their forms before eruption of the size which belongs to the adult individual. Previous to six years of age the permanent teeth, or the crowns of the permanent teeth, lie in the infant's skull of the same size that they are going to be at forty years of age. They lie in a condition of regular irregularity. There is not room for them to be regular. The central incisor teeth lie forward of the lateral incisors. In all baby skulls, unless there has been some accident to disturb the regular irregularity, the bicuspid are up in the jaw and the cusps have hardly begun to form and they are entirely outside of the line. That is what I mean to say, that those teeth are as large at that period of development as they ever will be. That child is not as large by any manner of means, the skull is not as large and the face is not developed anteriorly, nor has the skull developed posteriorly as much as it will.

I will tell you a story. I was at the circus one night in Paris. My assistant was with me, a young lady who lives with my family. This young lady pointed across the circus and said: "I venture to say that

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those two young ladies over there are Americans." She looked a little longer and said: "I think both of them have lost their sixth-year molars." They were in my office within a week and they *had* lost their sixth-year molars, being Philadelphians. There is a non-professional view of it, across a building with two utterly unknown people. It is not at all difficult to detect this mutilation, as a rule. The young woman had stood beside my chair for ten years, and had seen people with these teeth gone.

Dr. Ottolengui.

I asked you what you would have done with my case?

Dr. Bogue.

I would enlarge the arch sufficiently to get proper occlusion of the first permanent molars to begin with, for upon them rests the permanent regularity of all the teeth in the mouth.

Dr. Ottolengui.

The molar occlusion was correct at the outset.

Dr. Bogue.

I would enlarge the arch of the six front teeth. I would spread the ends of the bow a little further apart. In the first place I would draw forward the incisors until the edges of the lower incisors were arranged like the stones in an arch, touching at the edges and not allowing any portion of the central part of the tooth to overlap another. I would build an arch that would not go down under pressure of the lower lip, and in getting that arch, if it were necessary to advance the upper ones, I should do that. When I got through that at twelve years of age, I would see that the lower teeth were held in their proper positions. I would put nothing on the upper teeth at all, so soon as the bicuspid occluded properly, knowing that the lips would draw sufficiently to keep the upper teeth against the lower teeth where they belong. I would hold the lower ones in position, being perfectly confident that the upper ones could never get out of that position so long as the proper occlusion admitted of the cusps going into their relative places. Unless the patient were a mouthbreather and slept and went around with the mouth open, I should calculate that when adult life were reached there would be a dignity of countenance, as Dr. Angle not very long ago expressed it, a strength of countenance, that never can be had where there is loss of dental tissue.

Dr. Ottolengui.

I want to say that for the proposition which Dr. Bogue has made for the regulation of these teeth, I excuse him, because he has not seen the patient—it is the most awful proposition I have as yet heard, for the correction of the malformation of a mouth. I have distinctly said that the child came to me with an extreme protrusion which pouted the lips. He tells us to carry the teeth further out, widen the upper and lower jaw and make



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everything more prominent than ever, and then hold them so that they cannot get away, and trust to Providence to cure the protrusion that he has increased.

As to classification, I wish to say that even with my ignorance of Dr. Angle's classification, I classified it correctly. I put it in Class I. The occlusion mesio-distally—I adopt the terms because they are right as I understand them now—is normal. Therefore, all talk about correcting the molar teeth is time wasted.

Dr. Bogue.

I made no allusion whatever to the molars, because you said they were right.

Dr. Ottolengui.

You first said you were going to start by making the molars right, and you had seen the models. I say I put this case in Class I, consequently I realized that the occlusal relation of both jaws in the molar and bicuspid region was already normal. They were not only normal in the occlusal relation, but they were normal in the physiognomic relation.

I had no such trust in Providence as Dr. Bogue has. I did not believe that the face would be built out, and now, five years later, no such development has occurred. Even so, I cannot see that any increase of the size of the arch would have been necessary. The overbite is just as great in the beginning of this case as it was in the end. I do not believe that by moving the teeth out you would have brought the chin forward.

I agree with what has been said as to the extraction of bicuspids. I do not think I have extracted a dozen in my life. I do not extract until I am driven to it. Before I have extracted, I have often tried regulation first and carried it to the extreme limit before removing the teeth.

Another point I wish to make: Whatever classification we may adopt, I think if the anterior portion of the mouth is in a symmetrical condition and does not present a bad appearance, we would have no patients to work on. They come to us, not because of any scientific irregularity of their teeth, but because of the apparent irregularities.

I want to allude to the fixture I have used. Much has been said in the journals and other places against the roof plate. I wish to call attention to the fact that my roof plates are made of iridio-platinum and that they are not used during mastication, being removable; consequently there is never, practically, any opportunity of the food getting on them, under them or around them. This plate was worn all last winter. I brought it purposely without boiling or polishing it. It was much more presentable when first made, but still, you see, it is clean, because it is boiled every day; the direction to the patient is that it shall be boiled in a soda solution every day.



I have a patient for whom I retracted an upper jaw at the age of eight to ten years. She is now seventeen years old and is still wearing the retaining appliance. It has been to a certain extent a director for the eruption of the new teeth to compel them to come in properly. That little lady has been constantly under my care. I have had occasion to put but two small gold fillings in her teeth and these where there was no fixture, in the lower teeth. The necessity of keeping a retainer clean teaches the patients cleanliness, so that a fixture that can be boiled every day is an advantage rather than a disadvantage to my patients. I thank you all very much.

Simple Methods Employed in Orthodontia.

By Dr. J. BOND LITIG.

Read before the Second District Dental Society.

No doubt Dr. Angle's classification of irregularities is the best that has ever been published. We thought that his many little mechanical devices which he formerly made for correcting irregularities were among the best, yet he said to me, "I seldom use one of them; I confine myself almost entirely to the outside bow." (This bow that he speaks of is a modification of that used by Fauchard, Fox, Harris and others, many years ago.) The results which he has obtained with this device are wonderful to say the least. The question comes to me as I write this, can we *all* obtain the same results as Dr. Angle does? Shall we never extract a tooth to give space, but force every one into alignment? The only way to accomplish this end would be to give up all other work and devote one's life to the practice of orthodontia alone. Acknowledging that this is the ideal way to regulate teeth, I doubt if it is always best for us to spend one or two years upon a given case, when a fair result could be obtained in two or three months by the extraction of one or two teeth. This will naturally depend largely upon the condition of the patient under consideration.

First—We must consider the physical condition of the patient; whether or not capable of enduring the nervous strain.

Second—Will the evidences of appreciation be sufficient to warrant us in carrying out such an extensive operation; and

Third—Will the patient be able to give sufficient recompense for the



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number of visits which will be necessary during the more prolonged operation.

There is one other thing that should be borne in mind; that is, teeth which have been forced into alignment without extraction for space are very much more difficult to hold in their new position and consequently the retaining appliances would need to be worn a greater length of time.

While regulating without extraction may be considered the scientific way of correction, yet when men *in full practice* undertake this method I fear that there will be more failures in the future than there have been in the past.

Extraction for Regulation.

In the first place, I desire to speak of the extraction of teeth. The slight mal-occlusion which occurs from the extraction of a tooth, it seems to me, is very much overestimated. I do not think patients suffer the lack of masticatory power that is attributed to extraction. Only

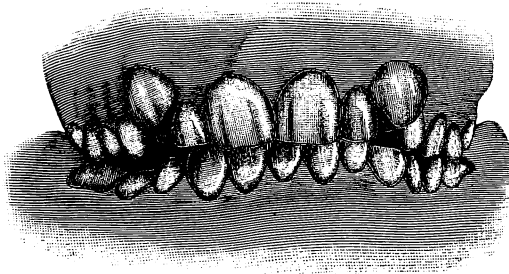


Fig. 1.

recently a patient came to my office for whom I did some extracting twenty-seven years ago, when almost everybody was extracting the sixth-year molars. Her front teeth were very much crowded and overlapping in every direction. The patient was one whom I knew I could not make wear a plate for any length of time, and so, after considering the matter, I extracted the sixth-year molars. I said to her the other day when she called: "I believe I took your sixth-year molars out when you were a child." She said, "Yes." I told her I would like to have an impression of her mouth and I took a wax impression from which this cast was made. She said to me: "I have just been examined by a physician, because I have been under a little nervous strain, and he pronounced all my organs in perfect order, with no derangement of my digestive apparatus in any way." I say in passing that while it may not be the ideal way of regu-

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lating teeth, it has answered the purpose in this instance. Her case certainly has been a success. Her face is full, and it seems to me I have done no harm in extracting those teeth. Do not conclude that I advocate the wholesale extraction of teeth—by no means; nor do I extract sixth-year molars as I did at one time; but I am trying to prove to you that it is not such an awful thing—the little lack of occlusion that we get from extracting teeth.

I have a model here—the reverse of that case. The case I have in my hand is a very old model, which has been knocking around the college for a number of years and is pretty well worn off. It is a case where too much extraction had been done. An energetic practitioner extracted the sixth-year molars. The cuspid teeth came outside between the bicuspid

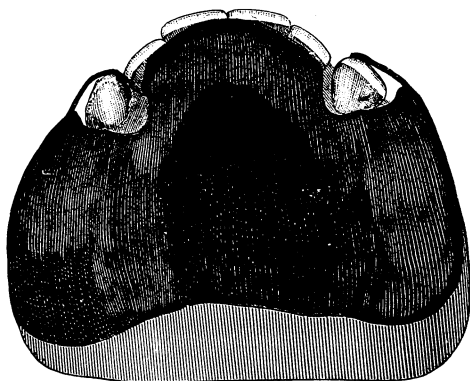


Fig. 2.

and the laterals and he extracted those. The result was that, at the time she presented herself to me, the upper teeth were closing behind the lower ones and there had been such attrition of the teeth that they were lacerating the lips. There was nothing for me to do but to advance those teeth and put in two artificial ones in place of the cuspids, which I did, and that was the first case wherein I moved teeth by means of rubber from behind to push forward the teeth in the arch, other cases of which I will show you tonight.

Here is a case (Fig. 1) that came to me recently. With all my knowledge in regard to spreading the arch, the use of the bow and everything that pertains thereto, I found that to obtain a correct articulation of those teeth and to bring them into alignment, it was necessary for



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me to move about every tooth in the mouth. I put this question to the parents of the boy: "Are you willing to go through an operation which may take eighteen months or longer to get all those teeth in line, or would you rather that I should extract a tooth on each side and get a fair adjustment, which will take me perhaps three weeks?" Of course, they preferred the three weeks and so did I. It was perhaps not the ideal way of regulating the case, but I extracted the first bicuspid and I have had a plate there for three weeks. Those teeth are nearly back into the place where the bicuspid was taken from. I think the boy's mouth will be

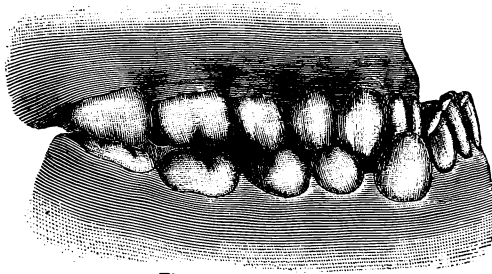


Fig. 3.

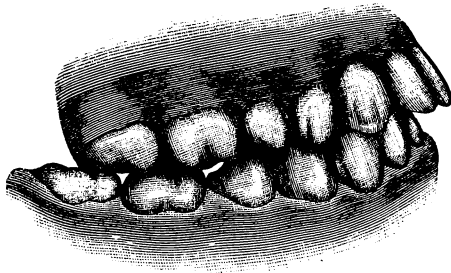


Fig. 4.

full enough for all practical purposes. It will be as good a result as they would appreciate. They were not possessed of wealth nor were they society people.

Taking a case of this kind, I make a plate to go over the posterior teeth and then fasten a wire to the outside, which not only presses in but pulls back at the same time (Fig. 2). Once a week, when the boy comes in, I take my pliers and bend it. It takes but a few minutes and it will not take more than four weeks to get those teeth back to where the others

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were extracted. This is nothing new, but I was asked to bring before you some of the antique and simple methods.

I use the ordinary steel piano wire. The only objection to it is the discoloration of the tooth, which, however, is superficial and can be cleaned off. I vulcanize it in the plate. Cutting the length I want, I bend it to fit. It is not necessary to plate the wire at all; simply tin what goes into the rubber, so as to fasten it.

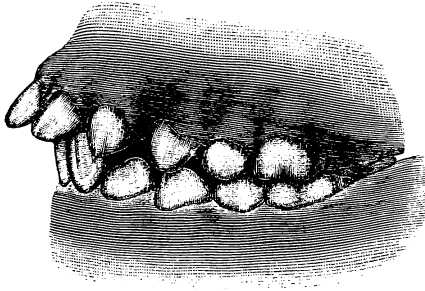


Fig. 5.

The question comes up whether we should use an inside apparatus to move teeth or an outside one; whether we may push instead of pull. I have found that Dr. Kingsley was not very far wrong, even in the light

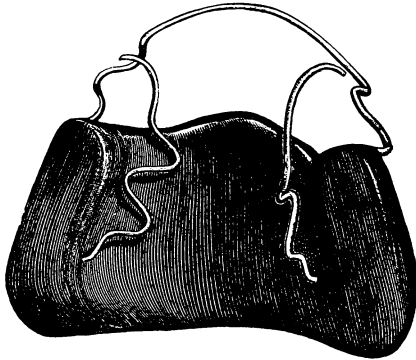


Fig. 6.

of the present time with all the appliances that are made. Dr. Kingsley used a rubber plate, which he split on each side. If he wanted to move the teeth on one side, he cut but one side. If he moved both sides, he cut both sides, and, by turning a jackscrew, he quickly widened the arch. I have used that and have been successful with it. It depends on how

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you make the plate. If you make it so as to come up just against the tooth, it does not work; but if you make the little prongs come up and hold it in position, and then put in your jackscrew, you will get the movement.

It has been my custom, for a number of years, to use one appliance for advancing the upper teeth.

Here is a case of prognathism which took me just three months to remedy. You see the condition in Fig. 3. I can verify it, if any of you doubt it, by showing you the patient. The patient was eighteen years of age. All I did in that case was to make a rubber plate going over the posterior teeth and resting against the lingual surfaces of the anterior teeth. I simply sew rubbers on the plate behind the anterior teeth. Let that plate go on with a click when it goes up; let it fit tight enough for that. If it gets loose, all you need to do is to hold

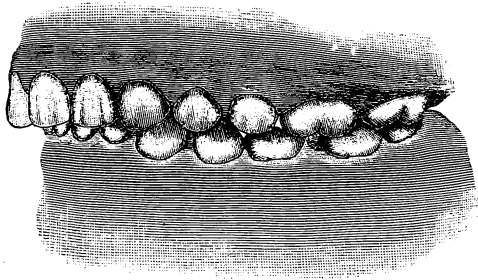


Fig. 7.

it over the lamp and press in the parts which go over the posterior teeth so as to make the plate tight again. You do not need to have the patient running to you all the time. You bore holes in the plate opposite the teeth to be moved and give the patient the rubber bands, telling him to sew one on every few days. This young man had no difficulty in sewing these on the plate. I used the ordinary elastic bands, such as are used for holding letters and papers together. I used nothing else and the teeth advanced and came outside. It is not nearly as hard as it may look. He had to wear no retaining plate, and the case is growing better and better. The casts shown in Fig. 4 were taken about four months after I completed his case, so I think it must be even better now, and it certainly seems a success.

Here is another case (Fig. 5) which is the reverse of the one just

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described. It is of a kind that used to try my soul more than anything I know of, until I learned some years ago how to remedy it—where the lower teeth seem to be longer than they should be. There seemed to be an extreme development there. We have the anterior protrusion, with the lower teeth resting upon the roof of the mouth. I found by making the patient wear a simple plate in the roof of the mouth, so as to allow the front teeth only to strike against it, after several months you would find you had gained space. Whether that comes from the elongation of the molar teeth or the repression of the anterior teeth, I have not made up my mind; but we get the space between the two jaws, and, in this case, I made him wear it four or five months before I commenced—just biting

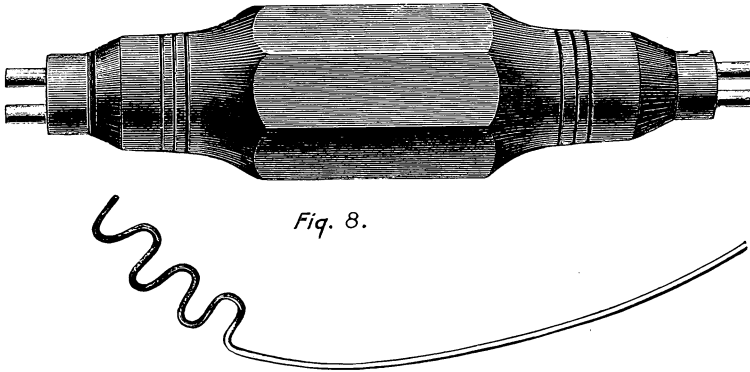


Fig. 8.

on the plate. After that I made an appliance that is pretty much the same as Dr. Ottolengui showed at the Orthodontist Society meeting, with the exception that his bends were the other way—up and down.

Dr. Ottolengui.

That was not mine; it was Dr. Jackson's.

Dr. Littig.

Well, there is really nothing new under the sun, if we only ferret it out. I gave a pair of pliers to this child's father and when I left town in June or July, I said: "I want you to bend this wire backwards all during the summer," which he did, and he did it so well that on the return of the patient in the fall, these teeth were nearly back in place. I did not have very much to do with it, except to make the appliance. I have made another appliance, because he weakened this so that I was afraid to go on, and it took too much bending. It took me longer to do his case than

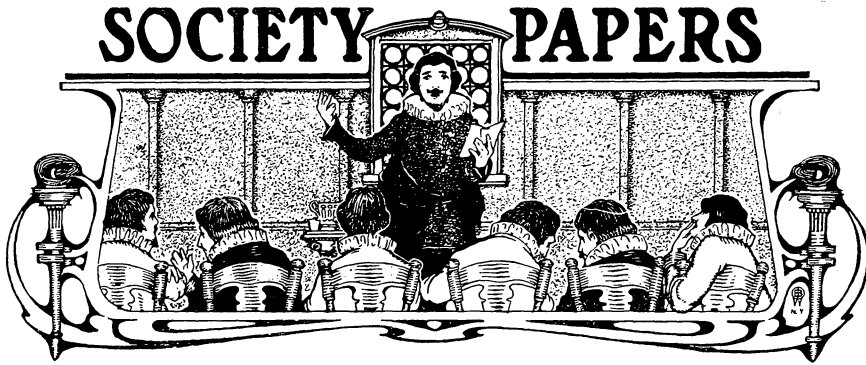


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the one I spoke of—bringing back the lower jaw. It took almost a year before I could put on the retainer.

Here is a fixture (Fig. 7) originated by Dr. G. E. Manney, a demonstrator in the New York College of Dentistry, and also his appliance to bend the wire with. We made this little arrangement with the two prongs which gave a very excellent method of bending of our wires. That is bent very much as in the case Dr. Ottolengui presented—Dr. Ottolengui says it is a better bend.





How Far Can Surgical Asepsis Be Applied to Everyday Dental Practice ?

By HENRY D. HATCH, D.D.S.

Read before the Eastern Dental Society of New York City, Feb. 5, 1903.

It is easy enough to lay down strict rules for the government of dentists who wish to conduct their practices in accordance with modern advanced ideas of surgical cleanliness. But it is quite another thing for the average dentist to comply with them.

The average dentist is not a rich man; on the contrary, he is apt to be one who has all he can do to make both ends meet; who never has quite all the instruments he needs to complete *one* set, to say nothing of *two* complete sets; who has about all he can do to pay the rent of one operating room, to say nothing of two.

Hence, I say, it is both easy and useless to say to such men, "Have *two complete* sets of instruments, so that one can be sterilized while the other is being used," or "Have two complete operating rooms, so that one can be cleaned up while the other is being used," etc., etc. That such an arrangement would be an ideal one there is no doubt, but that not one in five thousand (more or less) could afford to have it is certain.

So let us consider first what is the ideal and then what can we do by the exercise of our ingenuity to come as near to it as possible. First: It is deemed not necessary at this date to urge upon any body of dentists



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the desirability—nay, the necessity—for surgical cleanliness. No dentist has a right to inoculate a patient with the diseases of the patient who has gone before. As the dentist does not always know the exact condition of the previous patient, it behooves him to take the same precautions with each one. If there were no danger of infection, the interests of our patients demand that at least ordinary cleanliness be maintained. A word as to *ordinary* cleanliness, for this precedes surgical cleanliness and without it surgical cleanliness would be impossible.

Ordinary cleanliness would dictate: *First*: That one wash his hands with soap and water, using a nail brush, just before going to the patient. *Second*: That the patient be supplied with a clean towel or napkin. *Third*: That a clean drinking glass be in place at the chair and filled with clean water. *Fourth*: That a clean (not before used) tray cover be in place on the bracket table.

These, with a scrupulously clean office, would go far towards making your patient feel comfortable and at ease, and will pave the way for confidence in you. To even mention this would seem superfluous, but I am convinced after seeing many offices that attention to this feature is of equal importance with the disinfecting of instruments.

A Personal Reminiscence.

Allow a personal reminiscence. While in another town I was called upon to do the, then new, operation of pulp-extirpation, using pressure anaesthesia. Although I employed the rubber dam and tried to use clean instruments, I felt at every turn the impossibility of doing an aseptic operation and then I realized *why* it was that the resident dentist could never achieve success with pulpless teeth, although I had repeatedly gone over the details with him. He was, and I suppose still is, always changing from one drug to another, hoping against hope for the success which will never come to him until he changes his *methods*. The tray cover was reeking with filth, so that no instrument could be laid upon it without contamination. The headrest covers were so vile that to touch them must surely cover one's fingers with bacteria. The cabinet was filled with the dust of ages. The corks of the bottles containing antiseptics were grimy, as were the outsides of the bottles; the dish containing carbolic acid, in which I kept the instruments while operating, was covered with flyspecks. Everything in fact that one touched, or wanted to touch, was laden with filth, and of course with bacteria, both pathogenic and non-pathogenic. This picture is not overdrawn. The young man was a graduate of one of our best schools and his practice was one of the best in a good section of the country. Now tell me what advantage there was to start with clean instruments and clean hands in such an office?

**Easily Attained
Aseptic Methods.**

But the subject of this paper was to be, what can an ordinary dentist do to perfect his technique in asepsis. First, let us grant that Miller is right when he says that two complete sets of instruments should be supplied. But* as we said in the beginning that is out of the question with the average dentist. He can, however, accomplish the desired result by duplicating a few instruments and by using some forethought. Let us say that we are through with an operation and that the next patient is waiting. First, let the dentist wash his hands so as not to contaminate everything in the office that he may touch between patients, appointment book, pen or pencil and many things which he is sure to touch and which, if touched again, will infect his hands. While he is doing this, let the lady assistant (for I take it that a lady assistant is a necessity in a modern office) quickly remove the things from the instrument stand. First, she puts away the gold pluggers and mallets, sets aside medicine bottles, etc. Then she gathers up the instruments and everything else all at once on the paper cover and removes them to the laboratory or side room, leaving them there while she puts on a new paper cover (plain white paper cut by the 1,000 by a bookbinder to fit stand*) on the bracket tray, a new napkin on the headrest, a clean mouth piece in the saliva ejector, and a clean drinking tumbler in its place by the chair. This tumbler is taken from a trayful of five cent whiskey glasses cleaned the night before. Thus the chair is made ready in about one minute or two, and the new patient seated with a clean towel or large napkin around her neck. The hands of the operator are again washed, this time using last an antiseptic solution. (I prefer bichloride of mercury, Miller prefers lysol.) But where are the clean instruments to begin the operation?

Sterilized Instruments. Well, here is where some duplication is necessary. First, the mouth mirrors, plyers and explorers.

These are the first needed and of these one must have duplicates. Next in order will be the clamps; then needed next will be the more usual enamel chisels, a few spoon excavators, and *these* will have to be duplicated. Most dentists will find themselves provided with enough burs for this purpose. With these few extra instruments one can begin and work for some time, long enough for the assistant to have the others sterilized. This she does by first washing with water, preferably running, to remove blood, debris, etc., then placing all together on a tray in the formalin sterilizer, where they ought to remain for ten minutes or more if they are not required and they usually will not be. Then they are taken out and distributed (the assistant learns to do this quickly) and thus the cycle is repeated throughout the day.

*After Goldsmith.



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Formaldehyde.

As the writer has shown in a paper read before the First District Dental Society in February, 1901, and published in the *Cosmos*, November, 1901, formaldehyde gas is the best all round antiseptic we have in dentistry for our various instruments. Boiling is all right and is perhaps the best and quickest method of sterilizing when the nature of the instruments will permit it. But as I pointed out in that paper not all of our instruments can be boiled or steamed, and when I hear a dentist say that he always boils all of his instruments, I am apt to think that he has never tried it at all. For instance what would happen if we tried to boil the rubber dam face piece, or the hand pieces, or the corundum wheels, and these last need it as much as or more than any other instrument, for in grinding for crowns they are almost always covered with blood and always with mucus and saliva. These corundum stones and wheels can neither be boiled, nor put in carbolic acid for any length of time, as carbolic acid is an alcohol and eats out the shellac, leaving the powdered corundum in the vessel. Neither can they be burned off with alcohol as some medical men glibly tell us to do with all our instruments. And then there is the nitrous oxide gas face piece, and all wooden handled instruments which by the way ought never to be made or sold.

Formaldehyde gas has another advantage, viz.: that of sterilizing the whole contents of a cabinet (Low) and for that matter the whole operating room to some extent. It is to be hoped that cabinets will be so constructed in the future that a lamp can be set in the cabinet closed tight and the gas have access to everything in the drawers.

Rules for Practice. A word concerning the technique of operating aseptically in a model dental office, none of which are or can be perfectly sterile, as the operating room of a modern hospital is, i. e., unless we change all our plans and ideas concerning them.

First, to avoid soiling the whole pile of napkins piled in the usual way, have the assistant repile them alternately crossed so that one corner of the top one can be grasped without touching the ones below, taking care not to do this!

Second, in picking out an instrument avoid touching the points of the others in the same tray either by a certain deftness of fingers or by using a pair of clean piers.

A surgeon would have all the instruments needed for a given operation sterilized and laid out and ready to be handed to him by his assistants, but the dentist can hardly do this as he never can tell exactly what instruments he may need, and there are so many and in such variety that even a trained assistant could hardly keep up with it.

Third, avoid touching anything more than is absolutely necessary after the operation has commenced. By rights, the head of the patient ought to be covered with a towel folded like a turban, but as that is not customary, one can adjust the head of the patient by using the pisiform bones, instead of the finger tips. For our own protection we ought also to avoid touching our own head or face. If one has a cold, it is better to use one of the small cheese-cloth napkins and throw it away.

The matter of hand towels is one of importance and often neglected. If one stop during the operation, say to mix amalgam, and then wipes his hands after only a partial cleansing on his hand towel, it will not be of much use to thoroughly cleanse his hands before the next patient and then use the same towel. Small, short towels, like the individual ones in hotels, are preferable as these can be thrown aside more often than the usual size will be.

A pocket knife for cutting of wedges, etc., seems to be an indispensable instrument to a dentist, and being so I have purchased a new one and keep it in the cabinet (open) as a dental instrument, thus avoiding the necessity of taking it out of the pocket. And this suggests another thing, the dirtiest of all things, money, which one should always avoid handling while operating. Let an assistant make change or if the operator must do it, let him thoroughly cleanse his hands afterward. The wire brush used to cleanse the burs should never be attached to the engine, but should be sterilized with the other instruments.

The filthiest thing about the office is apt to be the **Mouth Props.** mouth props or gags, where one does his own extracting. Allow me to read the account of the impression once made upon one of our best surgeons, Dr. Robert T. Morris, published in the *Cosmos* for November, 1901, on page 1331: "Not long ago, I myself had occasion to have a tooth removed. I was referred to an expert in this city, and he put between my teeth, before extracting the tooth, a wooden prop that I know to a moral certainty had been in the mouths of people with tuberculosis, in the mouths of people with syphilis. I know because of the age of the mouth prop. There is no reasonable doubt but that it had been in the mouths of a good many patients with syphilis and tuberculosis, and, perhaps, diphtheria cases. In the beginning of diphtheria the teeth often begin to ache, and patients go to dentists with the bacteria of diphtheria most actively under way. I presume that mouth prop is still in use. I know it had been in use for months. It is not right that an expert in this city should have used that mouth prop for anyone—even upon a surgeon."

If one uses a patent prop then let it be boiled and a new string attached each time, or better still, have them made by the dozen, of soft



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clean pine wood of different lengths, each with a clean, strong linen cord attached and then throw them away after using. I have used such for years.

Referring to the remarks of Dr. Morris and many others, which we see often in medical literature, instance this clipping from the last journal of the American Medical Association: "Speaking of the common means of venereal infection by the use of common drinking mugs, communal cups, lead pencils, by vaccination, by hypodermic needles and by manicurists' tools. The latter class through their indocility are a menace to the health, and second only to the dirty tooled and dirty nailed dentists abounding unpunished among us."

These and many others which could be multiplied indefinitely are a disgrace to us as a profession, and professional pride, if no other reason, ought to cause us to mend our ways. If we do not, the time will come, and that soon, when we will be subject to the humiliation of being classed with barbers and manicurists and compelled to do so by law. The laity are quick to comprehend the latest rules in bacteriology.

Before leaving this subject, there is one more **Importance of Habit.** point upon which I must touch, viz.: *habit*. A whole thesis could be written upon that but there must be a limit to this paper already too long.

It is a well known physiological law that an impulse which has traveled a certain path once, takes that path more easily the next time, and the next, etc., until finally the action becomes automatic, or nearly so; hence the importance of forming correct habits in this respect. Once formed it is easy to do things in the right way; on the other hand, if slovenly habits are formed, "He that is filthy, shall be filthy still," and then if in a special case he tries to comply with all the laws of asepsis, he will surely fail.

Old Thoughts, in Relation to Pyorrhea Alveolaris.

By Dr. MAX GREENBAUM.

Read before the Southern Dental Society of New Jersey, June, 1902.

Although a conditional promise was given to the Chairman of your Executive Committee to present a paper devoted to the consideration of those various pathological conditions known under the generic name of pyorrhea alveolaris, when the time approached for preparation of the subject it occurred to me that, not only could I not say anything new of this wide class of disorders, either as to etiology, pathology or therapeutics, but most likely little interest would be aroused through a specific presentation. Such method of treatment of the subject necessarily involves restatement of much, if not all, of what has been said and written concerning pyorrhea, in a manner which is familiar to you. You, therefore, may note some modification of the original intention as stated, to the extent of herein incorporating a few thoughts on existing modes of practice in comparison to those of the past, with the view of determining what progress has been made in relation to pyorrhea, also in the hope, that, as you will hear read merely a collection of "old thoughts," the manner of treatment if not the substance, will evoke some little interest.

Age generally commands respect. This is a moral obligation prescribed by every enlightened form of belief. The analogy which here suggests itself is at once evident. Can we make the application to "old thoughts?" In many instances the affirmative of this is at once evident, and no doubt almost every one can offer an example of knowledge long since established, still commanding our respect because, apparently, it is as correct and well founded today as it was at the time of its establishment. And this is so with dental knowledge. From this, however, the deduction must not be made that any mode of practice, or any knowledge for the fulness of the argument, that can lay claim to a degree of antiquity is entitled, purely on that account, to our respect. It appears to be almost a human mandate that respect and appreciation be accorded knowledge, even though it contains but part of the truth, provided it is an offspring of the past; and the respect and appreciation seem to be proportionately enhanced, in degree as the knowledge can claim antiquity and completeness. New truths, as a rule, do not meet with ready acceptance. This is a matter of history. But as truth must persist, old methods, old ideas, old modes of practice are relegated to the past, and in their stead we find new methods, new explanations and new relations. This is progress. The old may have outlived its usefulness, or, as we sometimes find, it



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was erroneous and a positive hindrance to the truth. Then again, and it has not occurred infrequently, that which is presented in the name of advanced knowledge, is only so in the claim made for it and not in the substance. The statements are clothed in different and perhaps more inviting phrases, but the essentials are not new, they are old. Take for instance the surgical aspect of alveolar affections.

Years ago Dr. Riggs emphasized the importance
Surgical Treatment. and demonstrated the efficiency of thoroughly removing all deposits from the roots of teeth afflicted with pyorrhea. This is as forceful today as he assumed it to be fifty years ago. They who idealize *progress* and only wish to be classed as *progressionists*, may argue that today these affections have a better classification, are better understood in their local and general involvement, and in consequence receive more thorough treatment. This may be true, if not essentially, perhaps in the details. And it is equally true, if we admit the facts as handed down by those familiar with Dr. Riggs's successes; his results, achieved when dentistry was in its infancy, were as satisfactory as any produced today. It matters not whether you are dealing with that class of pyorrhea the incipiency of which lies in a deposit from the oral fluids along a portion of the cervical border; that class distinguished in its primal aspect by a deposit from the blood near the apex, or that class in which a deposit is not the first manifestation of the disease, but which in most cases subsequently is marked by a deposit; all require thorough surgical treatment for a favorable outcome just as Dr. Riggs insisted upon in his treatment of these conditions so many years ago. Thorough surgery in these cases is an "old thought" and one worthy of much respect. Irrespective of any claim in advancement of knowledge of pyorrhea, in its therapeusis, thorough surgery will ever be a salient factor. Dr. Riggs realized its importance and acquired the necessary technical expertness to carry it into practical effect. How many, like him, have realized its value and acquired the ability to thoroughly remove deposits from roots? It is in no sense too severe a statement, to say that as a general form of practice, viewed in the thorough sense, it does not find application. Too frequently the operation is performed in a perfunctory manner, due not so much to inability to acquire technical proficiency, as it is to the failure to properly estimate the effect of what is now a very "old thought" in dentistry.

Passing from the surgical aspect as a curative
Medicinal Treatment. means in pyorrhea, let us consider the medicinal.

What is new in the modern medicinal treatment of pyorrhea? The use of antiseptics must be allowed, and these diseases afford conspicuous reminders of the general debt of gratitude we owe

the comparatively modern science of bacteriology. Without the liberal use of antiseptics prescribed with a full knowledge of their varying capacity to do good, we do not mete out to our patients that service which they have a legitimate right to expect from us and which we ought to be able and willing to give. But has the remarkable progress which we find on all sides a like application in the production of an agent that in itself more potently exercises healing effects than any before known? In a paper presented before the New York Odontological Society last October, Dr. Good of Chicago, who devotes considerable time to the treatment of pyorrhea, much after the manner of a specialist, first referred to the treatment of these conditions as being "purely surgical," and later advocated the use of lactic acid. Dr. Good does not claim to have been the first to suggest the use of lactic acid in the treatment of pyorrhea, therefore it is no contradiction to say that this agent has been before the profession, in the same capacity, for many years. And if you will allow me to attest with my experience, no agent has given me results equal to those produced with concentrated lactic acid. Trichloracetic acid, a modern product, and one held in relation to pyorrhea in very high repute by some eminent practitioners, has not in my hands equalled the results obtained with lactic acid. It has been employed in varying strength, from five to twenty-five per cent solutions, and in some instances even in stronger solutions, in the same manner as lactic acid. It has also been applied in the same mouth wherein teeth were being treated with lactic acid. Teeth affected on one side received applications of lactic acid, those on the other side trichloracetic acid. In no instance did the latter agent act as favorably as the former. Trichloracetic acid may be a remedy of considerable value in the treatment of pyorrhea, but it does not seem likely that it will supersede or outrank the agent that from its many years of usefulness now represents an "old thought."

Concerning the question of pyorrhea, not considering here any mechanical device for prevention of the progressive loosening which results from gradual loss of alveolar walls and pericementum, we find that in the matter of local treatment the old is practically the new. Thorough surgery is the dominating factor. And in degree as we realize this and are able to carry the "old thought" into effect, so it appears likely that we will meet with favorable results. After the surgical treatment we may consider the use of such agents as lactic or trichloracetic acid, perhaps with a predisposition to favor the former. This, together with rigid antiseptic precautions, and in this category we have the hydrogen dioxide preparations, hydronaphthol and the various aromatic combinations to which formalin has been added, constitutes the local treatment of pyorrhea.



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Etiology.

Eliminating for a moment the consideration of old thoughts, we may inquire, wherein do we find the advance in knowledge of these diseases at which we hinted? A large mass of testimony has been collected by various investigators which strongly supports the present prevailing notion in the profession that pyorrhea may be divided into several classes according to the etiological determination. A few years ago Dr. Pierce quite conclusively demonstrated that gouty or rheumatic conditions exist as causative factors. From the frequent attacks of pyorrhea that have followed nervous disturbances, we must regard with apprehension any lowering of the vitality of the system. In fact exhibitions of nervous degeneracy, in its alarming frequency of occurrence in women, may in the near future take precedence as an etiological factor of pyorrhea. To be brief, many of the best thinkers in the profession today recognize a class of pyorrhea the beginning of which takes place at the gum line, owing to irritants acting in the oral cavity: a second class that has its inception near the apex, owing to a deposit of some waste material carried in the blood stream: and a third class in which the pericementum appears to suffer from faulty metabolism, leading to necrotic changes and finally presenting the other features which characterize pyorrhea, pyogenic infection and an increasing looseness of the tooth. The researches which have made this division possible, though it may be faulty, indicate the advance that has been made in the knowledge of pyorrhea.

Conservatism generally is regarded as characteristic of past conduct, in distinction to the progressiveness and radicalism so apparent of the present. It assumes a place in present considerations, because, being very markedly an attribute of past modes, it is an "old thought," and, furthermore, because it involves relations with pyorrhea. What follows may serve to make this clearer.

Dangers of Bridgework.

Bridgework as now constructed is a distinctly modern phase of dentistry. Statistics are wanting as to the number of cases of pyorrhea directly due to its adjustment. This is not stated as an arraignment against conservative bridgework, conscientiously fitted and constructed, and must not be so construed. But viewing conditions as they exist, is not the spirit of conservatism so characteristic of the past pregnant with advantages? Compare its results with those enamating from the wild impulsiveness of a vast number of modern bridgeworkers, and then ask yourselves the question whether a little of the conservatism of the early workers in dentistry, injected into the average modern bridge-worker, would not have an important bearing upon this serious question of pyorrhea.

**Extension
for Prevention.**

In like manner we may approach the latest *shibboleth* of western dentistry, "extension for prevention." This is not entirely new in principle, but in the degree as now advocated. The extensive removal of tooth structure as practiced by such men as Drs. Black, Johnson and Wedelstaedt results in enormous operations, and the question naturally here arises, to what extent does this induce pyorrhea? The phrase "extension for prevention" is decidedly catchy and no doubt this aids in popularizing the principle for which it stands. But the old practice of the men, who made American dentistry synonymous with most skilful dentistry, was somewhat more conservative and just as perfect and permanent as the results obtained from the radicalism of what these gentlemen proclaim to be a new creed.

Much as we find in past methods meriting our respect and remaining vital in the face of the annihilation which the "new" generally brings about, it must not be understood that the "new" is to be decried, or treated with indifference. Progress involves new thought. You cannot have one without the other. Its influences for good, however, may be restricted at times entirely lost, and not infrequently converted into harm, when it entirely disregards conservatism and savors of extreme radicalism. But join progress with the temperate balance which conservatism gives it and you approach the condition usually productive of best results.

A new interpretation of an "old thought" is to be applied in relation to alveolar affections. The old practice is that of cleaning the teeth. The new interpretation is that of Dr. D. D. Smith. His plan calls for the monthly treatment of teeth and gums thereby inducing a condition of oral cleanliness which cannot fail to be an important factor in the prophylaxis of pyorrhea. Cleaning the teeth is esteemed so simple a performance in dental work that beginners are put to the task. Dr. Smith's meaning is as much deeper in significance from this simple aspect, as Dr. Riggs's operation of removing "tartar" from the teeth is to the result ordinarily attained by dental practitioners. The business of the prophet now is somewhat out of date, otherwise we would venture the prophecy that if all who practice dentistry would devote themselves to the thorough comprehension of the "old thought" of thorough surgery as understood by Dr. Riggs, to the oral prophylaxis advocated by Dr. D. D. Smith, to conservatism in bridgework and gold fillings, the question of pyorrhea soon would meet satisfactory adjustment.





Address.

By Dr. R. H. WALKER, President of the Virginia State Dental Association.

Friends and Fellow Members of the Virginia State Dental Association:—

Once again have we assembled to do honor to ourselves by endeavoring to perpetuate the usefulness of this association—the foundation of which was laid broad and deep by men who saw the wisdom of such a union and the necessity for these annual conventions; where we meet to broaden and enlarge our conception that we may be able to choose the good for the alleviation of human suffering and lessen the chance for future ills. Let none, then, think that he can neglect this means of extending his education, for these gatherings are for the mutual good of all who will embrace the opportunity and come within its influence.

Fifteen years ago this association assembled at this historic spot, which is so favored by nature, possessing, as it does, one of the great masterpieces of Nature's handiwork. The heart grows sad when we stop a moment and contemplate the vast change in the personnel of this gathering and the one of fifteen years ago. Many noble and true men have passed from the arena since then. May we who have followed after prove ourselves worthy of the mantles so nobly borne "in days of yore."

When, at Old Point Comfort, two years ago, you called me to the honorable and responsible position of president of this grand organization, I recognized the high honor, and I do here and now express my high appreciation of it; and though feebly and imperfectly the duties have been performed, I can assure you that my work has been a labor of love. The hearty co-operation of many of you has cheered my heart and lightened the burden of responsibility in a manner that has been very gratifying to me, I can assure you. Your presence here today is proof positive that you are all in sympathy with this association and its work; and may we expect every one of you to earnestly, and it may be with considerable fervor, contend for what he believes is right and scientifically true, and thus may we extend the usefulness and honor of the profession in our several communities.

Let us, as brethren, be thoroughly possessed of that noble emulation "Of who shall best work and best agree." But what plans shall we formulate—what competent methods shall we provide? I would certainly urge the efficiency of such associations as this. Their proper functions are surely educational and stimulative to a very high degree. We must, of course, acknowledge the human taint of imperfection while we are conscious of spiritual striving after the ideal, and, between the extremes

of blundering failure and faultless success, point out a practicable and profitable course; the human mind, while it may not attain, can at least approximate the ideal. The way is plain with honest effort, the journey feasible, and the trend upwards. Nor does this beneficent effect apply alone to those things which have been done; it applies yet more forcibly and comprehensively to things yet to come. Any one of us, in the happy view of optimism, can imagine and call up visions of our profession's great and glorious future.

The millennium is a favorite subject of reflection and topic of conversation even with those whose long careers of usefulness must deny them the hope of witnessing it. It has to do with a richer knowledge, a deeper research, a more splendid skill, a more complete relief from suffering, a fuller recognition of merit. Its realization demands a profounder study, a more patient investigation, a more determined endurance, a more potent energy. It calls upon us to separate more clearly the potential elements that compose the basis and groundwork of our professional knowledge and skill, and to combine them anew into more beneficial and more powerful resultants.

Just here I want to quote from a man who, by his noble heart and generous nature, endeared himself to all who knew him and even to many beyond his acquaintance, who now "rests from his labors," but whose true worth, honor, and merit places his memory beside any peer in his chosen profession. I refer to the lamented Woodley. He says:

"There are some in our profession who speak in derision of our dental colleges and associations; but he who fails to possess himself of the advantages of properly organized colleges and associations will never, in my humble judgment, reach professional excellence. I will not stop to discuss their advantages both to the young and old practitioner, but will say that we owe a reverential gratitude, honor, and praise to Chapin Harris and his colleagues, who organized the first State dental association in the world. Would that I had the eloquence to speak of their worth and merit. You may erect granite or marble monuments to their memory which may kiss the lowering clouds of heaven, but long after 'Time, the great destroyer,' shall cause those structures to crumble in the dust their names will be lisped with honor, pride, and reverence by nations to be born."

I assume that professional excellence is the only sure guide that can conduct the professional man to eminence, and that high attainments combined with moral worth are almost sure to crown him with both. "First seek excellence and eminence, then wealth will naturally, and I may almost say inevitably, follow." Reverse this order and neither will be secured; nay, poverty and obscurity will be the certain results, unless you abandon



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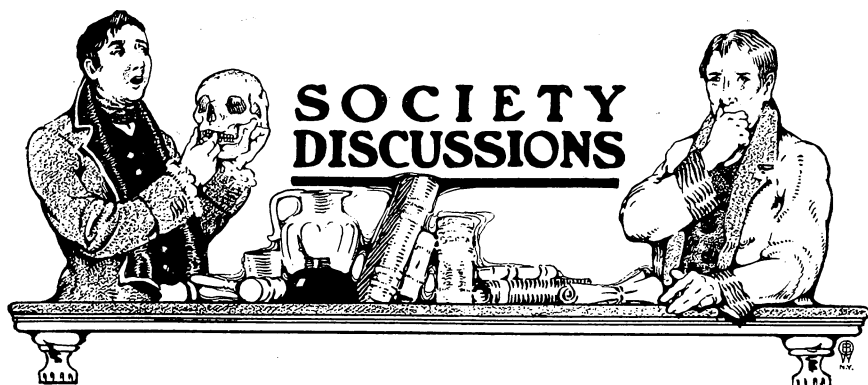
the legitimate path of the professional man. Why do some practitioners command large fees for their services while others are obliged to content themselves with small ones? And why is it that those who receive these large fees are constantly employed for a long series of years? Is it because those who pay such prices and take such great pains to secure their services do so to gratify a peculiar taste independently of an expected equivalent?

This is an age of improvement, and most emphatically so as regards dental surgery; hence, what would have properly been considered the standard of excellence twenty years ago is by no means to be regarded as such at the present time. Therefore, while we should be reading men, we *must* be working men. In our profession no kind of instruction whatever can excuse us from actual and constant manipulation and experiment if we would excel as operators.

But there are some, perhaps many, in our ranks who, while striving for the high mark of their ideal, do not realize that a time is ahead of them which must be provided for to keep them and their loved ones from want and deprivation. It is a fact that the members of the dental profession as a whole are poor business men, doing little toward providing for the day when active professional duties must be given up; and I want to suggest here and now that we, as a State association, take steps looking to the appointment of a permanent committee whose duties it shall be to search out and at least in a measure provide for those noble and worthy souls in our association who have given their best days and endeavor to the advancement of our loved profession, sacrificing time, energy, and money in their unselfishness for the uplifting of the profession and its standard, without taking any thought for the day when they must relinquish their professional activity and no longer be self-sustaining. This is a proposition that has been very near my heart for some years, for I have seen and known men of just this calibre that I have been picturing, and such grand and noble specimens of unselfish sacrifice should not be allowed to go unrequited; nay, is there a man enrolled as a member of our honored association who would not willingly and cheerfully contribute annually a sum sufficient in the aggregate to meet the demands of such a noble work? I think not.

Let us, then, as the poet says:

"Be noble, and the nobleness that lies
In other men, sleeping but never dead,
Will rise in majesty to meet thine own;
Then wilt thou see it gleam in many eyes,
Then will pure light around thy path be shed,
And thou wilt never more be sad and lone."



Second District Dental Society.

February Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, February 9, 1903, at the residence of Dr. R. C. Brewster, 126 Lefferts Place, Brooklyn, N. Y.

The President, Dr. Hamlet, occupied the chair.

The secretary read the minutes of the December meeting, and also those of the January meeting, all of which were approved.

The paper of the evening was then read by Dr. J. Bond Littig, of New York, on the subject of "Simple Methods Employed in Orthodontia."

Discussion.

Dr. Halsey. Did you ever have the central incisors rotated and persist in returning to that position?

Dr. Littig. They are very apt to, if they have lateral pressure.

Dr. Halsey. Suppose there is no pressure and nothing to cause it?

Dr. Littig. I generally put on a couple of bands to hold them in place, soldering them together.

Dr. Halsey. Then if they still went back?

Dr. Littig. I would do it again and keep the retainer on longer next time.



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Dr. Halsey. I have a case of a young woman whose teeth were rotated by two different men, yet they always go back. She came to me about eight years ago. I made a little T and sprung it into place. I left it there for six months, and then they went back. I put on the T again, and left it for a year and a half, and soldered bands on those teeth. I took it off, and in a week's time they were back in their old place. There was nothing to cause it. I made her a little T of clasp metal, and she simply wears it at night.

Dr. Littig. Are the teeth sound or decayed?

Dr. Halsey. There are fillings in them—not so decayed that I would feel justified in cutting them or putting wires in them.

Dr. Littig. I have a good many cases where people have pyorrheal tendencies, where they wear night appliances, because the teeth will persist in going back.

Dr. Ottolengui. I always feel a little bit as though I were sailing under false colors when I pose as an orthodontist.

It is a curious fact, but a true one, that I have had very little experience with the kind of orthodontia that has been described tonight. It seems to me that every child that comes into my hands for any attention at all, has a protruding upper jaw. I get all classes of variations of it, and once in a while there are crooked teeth also; but correcting these prognathisms, I have discovered that I need not, at the outset, pay any attention to the crookedness of the teeth, because the movement of the teeth back largely regulates them, and as they become more or less loosened in their sockets they can be straightened more easily later than they could be at the beginning. Consequently I am particularly interested tonight in those cases that are of that prognathous order.

Doctor Littig showed some models, with appliances, which were not like mine, but a variation of Dr. Jackson's. I rarely use an appliance of this kind, because I have found difficulty with the teeth I use as resistance in the back of the mouth. They get more or less loosened. Sometimes they pitch forward, and sometimes they overcome exactly what I am trying to do. The space I am trying to close is rarely closed by drawing the back teeth forward. I am more than repaid for coming here tonight by seeing this appliance, which has something I never saw before—the additional springs on the inside bearing against the cuspids; in this way you are not asking with that appliance quite as much as I did. I can see how with such an appliance the principal strain can be placed on the cuspids, and as a little is gained there, they may be allowed to rest, then the strain put on the front piece, so you are either moving the two cuspids back, or they are resting and you are moving the four incisors back. That of

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course gives your back teeth less strain. It has been my misfortune very often to do just what I am doing with a case now. I am operating on a case where the molars were so enormous that I felt I had anchorage enough to move a house and lot; but I soon noticed that the space I had made by the removal of the four bicuspid (identically like the case I showed in Philadelphia) was closing so rapidly that I became suspicious. The space in the upper was closing more rapidly than the lower. Examination showed that the molars were tipping forward in their sockets. I at once decided on a period of rest and applied a retainer and let the molars go back. Those molars will not be as valuable again for anchorage, and I will probably have to resort to the head piece or else utilize the Baker anchorage.

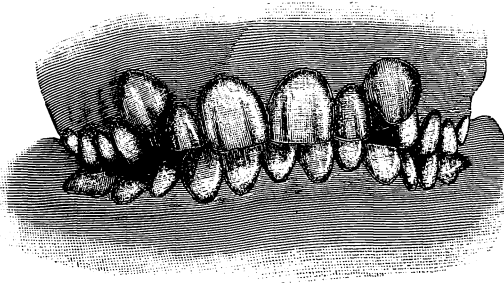


Fig. 1.

Having paid the Doctor a compliment on one of his appliances, I know he will not resent a criticism. He said he asked one patient whether he wanted regulation in three weeks or in eighteen months.

Dr. Littig.

Yes, I did.

Dr. Ottolengui.

Did you get it done in three weeks?

Dr. Littig.

It has been a little longer.

Dr. Ottolengui.

That was doing well. It is not always that cuspids can be brought down so readily, even after removing the bicuspid. If the patient was satisfied, perhaps that is all you aimed at, and therefore I am not criticising the work that was done. After all we must please our patients, and if the patient is in a position to appreciate nothing better, give him what he wants, so long as it leaves him in a fairly good condition. But as a matter of fact, if you follow the Angle system, a study of the occluded models of this case (Fig. 1) shows that those cuspids are the only teeth

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in the mouth that are in proper position. Now think a moment. Those teeth should be left just where they are. What is needed in that mouth is not to move the cuspids back, but to move the four incisors out to alignment with the cuspids. By widening the arch sufficient width can be obtained in two weeks without extraction, to accomplish the regulating. If the teeth were as easily moved as we are told, the anterior portion could be made right in three weeks longer; then jump the bite and you have a perfect occlusion with all the teeth in the mouth, within five or six weeks. I may be altogether wrong. Perhaps this child does not need its chin moved forward. Those two cuspids that look so prominent are the only teeth that are right. It may not even seem plausible, when I say that space can be made for the regulation of that jaw, because we must get space between the lateral and the bicuspid for the full width of the large cuspid. The way that is done is this: the jaw is split at its suture and the two maxillae moved apart—and they can be moved apart. As soon as you accomplish this, and draw incisors together and move them forward, you obtain additional space; then move the laterals, and you have the six teeth in line. In opening the suture you are to some extent moving the cuspids out, so that you may have to put a little tension on them. As the laterals are moved out, the cuspids could be moved in.

Dr. Littig.

Are not the molars a little out of place?

Dr. Ottolengui.

They are occluding distally. The lower jaw needs to come forward.

Dr. Littig.

His chin will then look more prominent to me than the upper part of his face.

Dr. Ottolengui.

I said before I might mistake, but that is the impression I get from the models. I always want to amend any advice given on models, by saying that diagnosis cannot be absolutely correct without seeing the patient. This is a case of anomaly, not of irregularity. If this boy's profile is correct, this occlusion is wrong. If he has a correct profile, and this occlusion, he has received best work that can be done. I brought that up with no idea of criticising the work of Dr. Littig, but rather of giving you the value of studying the occlusion. Very often you will discover that the tooth you started out to regulate is the only one that is in its proper position. I remember a case where I had a slight protrusion apparently of the centrals, and the upper lateral was standing within the arch. That was the first case in which I learned not to regulate crookedness before attending to the protrusion. I found subsequently that the lateral was the only tooth that was right. It was just where it ought to be, when we got through. If I had started by pushing that tooth out, I should have been obliged to push it back again; it would have been time wasted.

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I said that cuspids are not always easily moved. I recall a case where a cuspid resisted so long that Dr. Charles Meeker, who had worked on it for a long time, grew tired, and brought the little girl to me. There was plenty of room, but the cuspid would not move. Dr. Meeker said he exhausted all his means; I told him what to do, but he said: "Well, you go ahead and do it." I started in with the advice I gave him, and the cuspid did not move at all; then I thought I needed a little more anchorage, and I proceeded in this way: I put a band around the central and lateral, and a band around the two bicuspid, and used those teeth as an anchorage to move the cuspid. I thought I was doing very well, until a study of the occlusion showed me I was moving all four of the anchor teeth, and the cuspid was not moving at all. This is what I did then, and this is what you can always do with a recalcitrant tooth. I used all the teeth in the mouth as an anchorage, and that tooth moved. It is the old story of "Give me the place to put the lever, and I will move the world."

Dr. Gould. When you open the suture and you want to move the centrals together, how long do you wait before you start to move the centrals and laterals?

Dr. Ottolengui. It is best to use a retainer and let the caste rest two weeks. If you are not careful the teeth will go together over-night.

Dr. Boylhart. Does that mean the suture goes together?

Dr. Ottolengui. There is an effort for the suture to close. Only recently this thought came to me. Some think that all Dr. Cryer's talks about dry bones are dry subjects.

Men look at his pictures and say, "Wonderful pictures; but what good are they to us practical (sic?) men? I looked at his pictures at Philadelphia, and I thought of something I never thought of before. We are apt to think of the suture as being like this (illustrating by interlacing the fingers of his two hands). But this suture has a vomer on top of it. How is that vomer inserted? The vomer has two plates. The lower part broadens laterally. Does the vomer rest on one maxilla, or does it straddle the suture and rest on both? I think normally it would, but we see many cleft palate cases with the vomer on one side, and in the pictures Dr. Cryer showed, I noted it apparently on one side. Normally I am satisfied that it is on both sides. Therefore in opening the suture, you also split the vomer and you will understand the effort there is there to close up again. Thus I see why I have sometimes lost the space after getting it. It was because I did not wait long enough, to allow bone to form in the interstices. In cases which I have had since then, I am using a plate to keep the teeth apart and allow bone to form.



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Dr. Gould. I should expect, if I opened the suture, to put in an appliance to keep the arch spread; but when you want to regulate those centrals, they would not go together without some pressure, would they?

Dr. Ottolengui. No; but they go together very easily. Even if you keep the suture apart, you can collect those teeth in twenty-four hours.

Dr. Hillyer. It is impossible to give a man in college a thorough education in orthodontia. A graduate should spend a long time in post-graduate work to fit himself properly for this kind of practice. We cannot expect to have the time for all these different methods and so we resort to the simple methods. The method Dr. Ottolengui has spoken of is a simple one, and yet one that I should think would be productive of great results. Almost all Dr. Littig's methods are simple ones, or are perhaps adaptations of more difficult ones. To take one system and expect to do everything in the mouth with it, is extremely difficult for the average practitioner. We should take the best of each, and apply it to the individual case.

Dr. Ottolengui. I wish to allude to another aspect of the question of regulating. Recently a child was brought to me. She was seven and a half years old. She only has the two central incisors, and they are very prominent. At first I said I would not start until autumn. Then I thought it over and decided I would begin at once, because I saw by a study of the occlusion that it is a case for jumping the bite, and I might better do that early. The main point is that it has been my sad experience within a few years to see nearly a dozen cases of protruding teeth that have been fractured by falls. These young teeth are delicate, and the least thing that strikes them breaks off a half or a quarter of the face of the tooth. I explained this to the mother. I said: "Let me see her close her lips." She answered: "She does not shut them, because it is not convenient." Then she said: "Do you think this should be done now?" I said: "Why do you ask?" She answered: "I have a friend whose child had teeth just like these, and her dentist, who is a good dentist, advised her to wait until the child is twelve or fourteen years old." I said: "Many dentists will tell you, and honestly too, that you should wait until that time. But they are wrong."

Another case was brought in for consultation; and I advised that it should be started immediately. The child was taken to another man, whom we all hold in great esteem and love dearly, and that man said: "Wait until she is twelve or fourteen years old." The result is, they took the second man's advice, and those teeth will not be touched. If the jaw

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is widened when it is young, the bicuspid and cuspids will come in in good alignment. I tell you this so we can urge this propaganda from this time. It is the experience of specialists in this field that regulation should be started early. If you are not willing to do it, do not throw cold water on the efforts of others.

Dr. Leroy.

I would like to say a few words in regard to what has been said to sustain the new system of regulating. Doctor Littig has said it requires probably two years, or a year and a half—and even if it required only a year—that it is not policy to resort to any such lengthy operations. I can discount that by saying that it does not take that length of time by that system, a system without plates—the Angle system—but it can be done in as short a time as with the use of the plate. I do not discourage the use of the plate. I think all systems that have been in use are applicable to the various cases that come under our care, and I use the metallic plates, or a rubber plate, or any other device that I think will prove the most efficacious; but in the majority of instances, after you have once gained skill in the use of the Angle appliance, or the Jackson appliance, or something similar, you will resort to that more than to a plate, for more reasons than one. Probably one of the greatest reasons is the cleanliness of the device, and the expedition with which the teeth are moved. In a case such as the Doctor cited, I do not think it would have taken longer with the Angle appliance than it took him. If it had taken twice as long, I think the comfort of the device and many other little features of it, go to make it an appliance that is more to be desired than a vulcanized plate.

The Doctor says he gave his patient the choice of having those bicuspids extracted, and regulating in a short time, or leaving them in and taking a longer time to accomplish the regulation—not the same result, because the same result could never be obtained. Unless there were some real reason why those bicupids should be extracted, I see no occasion for disturbing them, and in the majority of instances, I think that the best policy would be to retain those teeth. I think the correction of the regularity would have been more lasting than if corrected by other means.

The point I wished to make is, when a patient presents for regulation, I do not think the patient should be consulted in the matter. I think it is our duty to do the best we can, and prescribe the best course of procedure, and if it is a monetary question, say what it is going to cost. If they cannot meet it, we cannot afford to take the case in hand. The two teeth in that case, or any other, should not have been sacrificed simply to satisfy the whim of the patient, who does not understand the requirements of the case, and probably never can, to the full extent.



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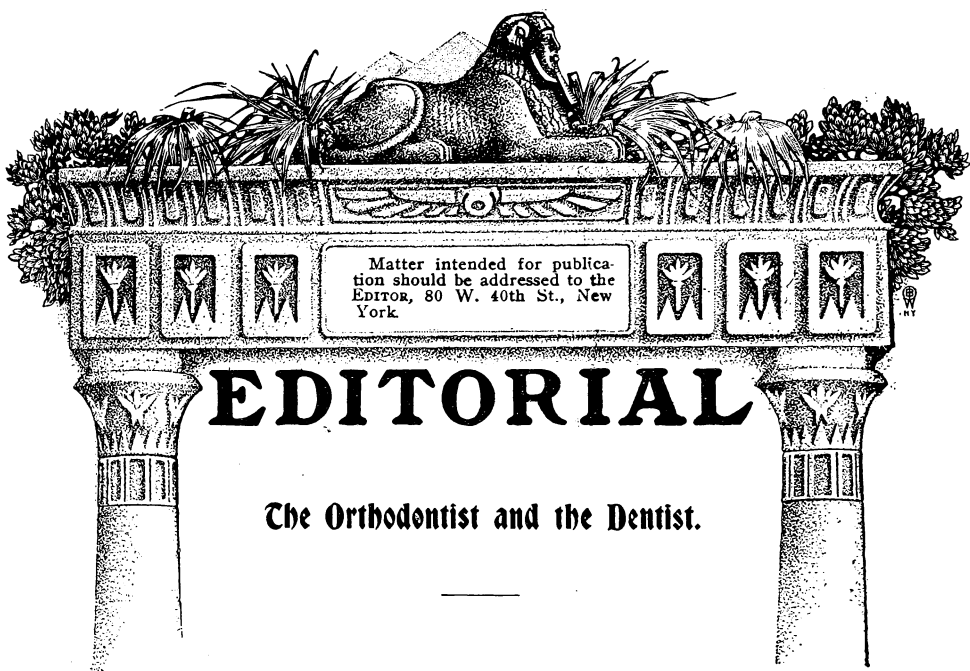
The final point is in the starting of the regulation, as Dr. Ottolengui has said, as early as it can be resorted to. It cannot be too soon. Probably the time when those cases present themselves first for our attention, is after the eruption of the first four teeth in either jaw—that is after the eruption of the sixth-year molars, the central incisors and the lateral incisors, because they generally tell the tale of what the future of that mouth is to be. If we will take care of the regulation at that time, the complication of jumping the bite does not obtain, and we overcome that later in life anyway.

I do not think I have anything more to say.

Dr. Littig. This case has accomplished what I brought it over for, that is, it brought forth discussion. If I had only brought what you agreed to, there would be no discussion. I told you in the beginning that the case could have been regulated by the Angle system and appliance. There is no one who knows Angle better than I do; I know his appliances, and how he works them. I know I could have accomplished that by his method, and brought all these teeth into line; but I do not think the parties would ever have appreciated the work I did. As to saying you can move those teeth and bring them back into line by Angle's method, I have never seen it done in that time. Dr. Ottolengui says that when the anchorage gets tired, he has to change it; I have the same difficulty in some cases. I swedge platinum caps and put a post and a screw back in the mouth and have the teeth cemented together; they cannot tip because they are united together by the cement. I obviate that difficulty by an appliance of that kind.

Dr. Barker moved a vote of thanks to Dr. Littig for his very interesting paper; the same was unanimously carried.





During the publication of the papers read before the American Society of Orthodontists we have received numerous letters which indicate that the practice of orthodontia as an independent specialty is a more or less novel idea which proves somewhat attractive to many of the younger members of the profession, not a few of whom have written for information and advice.

An increasing number of dental graduates are electing to adopt orthodontia to the exclusion of general practice, but at the present time it is still true that of those who are specialists in this field by far the greater number are men who for years conducted a full practice, and who have by this means acquired a knowledge which is invaluable, if not indispensable to the best results in orthodontia. This, and the further fact that the leaders in orthodontia have lifted that branch of our work to the plane of a special science, should be remembered by both orthodontist and dentist. The orthodontist should not overlook the fact that a ripe knowledge of general practice will often be requisite to the



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wisest prognosis, while the dentist must hereafter remember that the little that was taught him of this comparatively new science ten or twenty years ago when he was in college does not authorize him to pit his judgment against the opinions of men who have made the correction of irregularities a life's study.

**Orthodontia as
a Specialty.**

We have been asked by a number of young dentists whether or not orthodontia as a specialty is apt to prove a satisfactory field of work. A correct reply to this query will largely depend upon the predilection of the individual, the locality in which he intends to practice, and his relations with his fellow dentists. There is one great obstacle in the way of the orthodontist who practices orthodontia alone which should be well considered by all who think of abandoning general practice. To the dentist in full practice the child comes as a lifelong possibility. If properly and skilfully treated children become integral and important factors in a permanent business. In addition, the dentist may rely for a large part of his income upon adults.

On the contrary, the orthodontist will receive but few adults and his children come to him for but a single service, which, if thoroughly well done, only makes it more certain that they will not return. In less complex terms, a dentist may build up a business and to a large extent may count on seeing a good share of his patients annually. The orthodontist must depend upon obtaining new patients continually. On the other hand, the dentist may expect only a limited number of patients to be recommended to him by other practitioners in his own neighborhood, whereas the orthodontist may expect the major part of his practice from this source.

To those who may argue that medical specialists also largely look for new patients annually answer must be made. In one important respect orthodontia differs from all other specialties. The patient who is thoroughly well treated by the orthodontist will never require his services again. This is not true in other fields. The oculist may see a patient repeatedly for quite different troubles, without reflection upon his skill in services previously rendered. The same is true of the laryngologist, the gynecologist, the obstetrician, the general surgeon, and, indeed, of any medical specialist.



EDITORIAL

Let the young man considering orthodontia as an exclusive field not overlook the above facts; let him also remember, however attractive the reputedly large fees of the orthodontist may be, that any one such fee probably represents little more per hour than may be earned filling teeth, and undoubtedly less than can be acquired in prosthodontia. But to the man fresh from college we would particularly point out that while the leaders in orthodontia have undoubtedly vastly increased the importance of this work, they have by no means as yet made it independent of a full knowledge of practical as well as of theoretical dentistry. If such a man desires eventually to become a specialist in orthodontia, it will be safer and better in the end if he begins as a general practitioner, giving particular attention to the correction of irregularities, and as this department of his work increases he may set aside specified hours for its pursuit. Indeed, it is not certain but that the wisest course in any event would be to devote the afternoons and all of Saturday to orthodontia, reserving the mornings for general practice, since the great majority of those requiring attention are still busy with school duties.

A few words to the dentist in regard to his attitude towards the orthodontist. It is, perhaps, but human for us all to imagine that we can pronounce a ripe opinion upon all questions that may arise in relation to the teeth. With the broadening of the scope of what was once included under the term dentistry, this is no longer possible. Already general practice is breaking up into specialties, and it must not be forgotten that the specialist must of necessity acquire special knowledge. The concentration of attention in one direction brings into view objects and facts that are missed by the casual observer. The man who looks at a speck of decayed tooth bone with a microscope will better comprehend its meaning and composition than one who sees it only at the end of a spoon excavator.

A momentary reference to another field of science will serve to emphasize the moral which it is here wished to convey. In the Department of Agriculture at Washington there are many subdivisions, one of which deals with entomology. This division is under the chief entomologist of the United States, Prof. Howard. Prof. Howard, of course, is a professional entomologist, and must necessarily have a general knowledge of all



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phases of insect life. The study of insects, however is a tremendous field, and thus we see it specialized, men devoting themselves to Coleoptera, Lepidoptera, Hymenoptera, etc., etc. But even these fields are so large that we note further divisions of study, as, for example, among the Lepidopterists we have men who devote themselves either to diurnal butterflies or to the nocturnal moths. Among the collectors—for all students must have collections—we again find special students for each group, one taking the Sphingidæ, another the Bombycidæ, another the Noctuidæ, the Geometridæ, and so on. But the specialization does not end even here, for occasionally we find men who have devoted years of study to a single genus; and now, at last, we arrive at the point of this argument. The student of one genus may be an amateur entomologist—a man who has started collecting insects merely as a fad, one who by chance has gathered together a considerable number of species of a single genus, and so is attracted to them. Finding that very few other collectors are rich in this particular genus, and that therefore they can give him little help in identifications, he is obliged to make a special study of this one isolated group. And what may be the result? It has happened more than once, that such a specialist has become the highest authority in regard to this particular genus. Thus, though an amateur among entomologists, even the highest professional, Prof. Howard himself, would defer to his opinions in regard to his one genus; material belonging to the Smithsonian Institute might be sent to him for identification. Curators of public museums and owners of private collections welcome his views on their material and change their labels at his direction.

To a great extent this principle should hold in dentistry. The general practitioner, who regulates teeth with the aid of a laboratory workman to make appliances for him and of an office girl to remove and replace the appliances, he himself examining the little mouths from time to time, as he may be able to spare a few moments from the filling of a tooth, should hesitate to receive consultation fees from those who require the services of an orthodontist, perhaps expressing views in opposition to the specialists already consulted, and not infrequently influencing patients to adopt their advice, with probably evil results.

To specify in this connection, the orthodontist of today recognizes the advisability of starting early; the text-books of the last century advocated

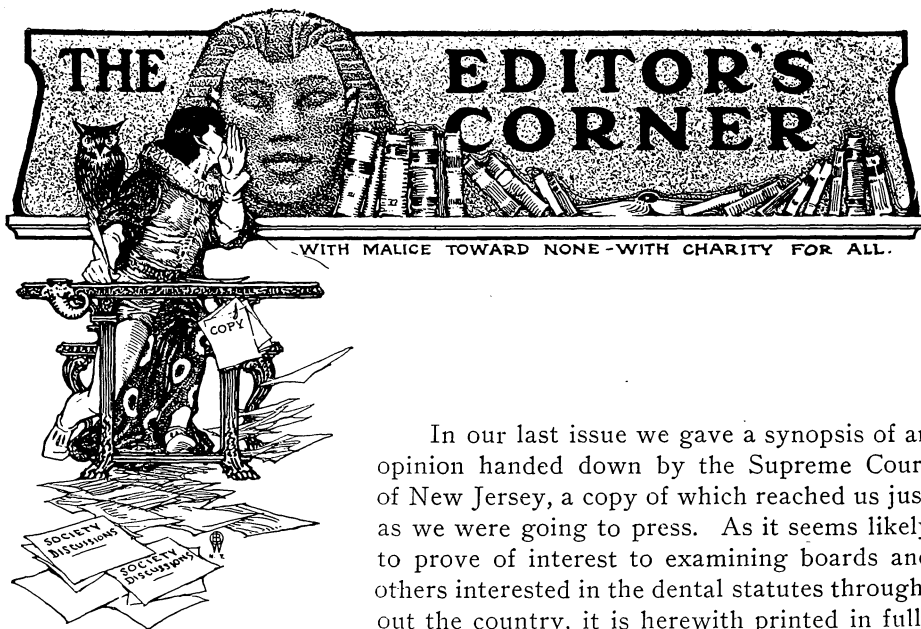


waiting till the eruption of the permanent teeth. A patient may be advised to have the teeth of his ten-year-old boy regulated; the advice may come from a specialist who has managed cases exactly like it, at the same early age, with the best of results. The patient hesitates, and is recommended for consultation to a general practitioner of note; and here let it be said, parenthetically, that the more noted he is the greater harm he may do. This man recommends waiting two or three years. The child is perhaps glad to defer the undertaking, and the mother willing to accept advice which is in agreement with her desires. So they wait. Three years later the patient is taken to the orthodontist, who now demands three times as high a fee, the work being vastly more complicated. The mother consequently goes back to the man who advocated the waiting policy. He is busier than ever, but he must now assume the responsibility. Consequently he extracts two (or more) teeth and pulls the more prominent of the others into some sort of alignment. This may be regulation of teeth, but it is not orthodontia.

Justice to Dr. N. S. Jenkins.

In the *International Dental Journal*, for May, 1903, on page 365-6, appears a letter signed by Dr. Wm. Rollins which touches on the claims for priority in relation to methods of making porcelain inlays. The writer holds Dr. N. S. Jenkins responsible for statements, made by Dr. Bruck in the lengthy article which appeared in *ITEMS OF INTEREST* last September, the allegation being based on the supposition that Dr. N. S. Jenkins made the translations, and "made no corrections." Dr. Rollins had a right to assume that Dr. N. S. Jenkins was the translator, because his name was erroneously attached to our publication in the magazine. The truth is that the translation was made by Dr. Charles Jenkins of Zurich, our error having been corrected and proper credit given when the matter appeared in book form. But even had it been otherwise, it is difficult to understand how a translator could acquire the right to make material alterations of a text intrusted to him for the sole purpose of translation from one language into another.





In our last issue we gave a synopsis of an opinion handed down by the Supreme Court of New Jersey, a copy of which reached us just as we were going to press. As it seems likely to prove of interest to examining boards and others interested in the dental statutes throughout the country, it is herewith printed in full:

1. The act entitled "An act to regulate the
Supreme Court Decision. practice of dentistry in the State of New Jersey, and
Syllabus. to repeal certain acts now relating to the same," approved March 17, 1898, coupled with the previous legislation on the subject, is not unconstitutional.

2. The act does not impair vested rights, nor is it in its criminal provisions an *ex post facto* law.

3. A calling, business, or profession chosen and followed is property. The Legislature cannot destroy it by statute, without providing for compensation, any more than it can authorize the taking of real estate for a public use, except upon compensation.

4. The act of March 17, 1898, is not an act taking or destroying property, but is a reasonable regulation of the practice of dentistry in this State.

5. It is within the power of the State, under the police power, to impose by statute reasonable restrictions as to registration and the obtaining of a certificate of authority to engage in the practice of dentistry, and to make it a misdemeanor for a person to practice without first obtaining such certificate.



EDITOR'S CORNER

Opinion of the Court.

FORT, J.—The defendant was convicted in the Cumberland County Quarter Sessions for practicing dentistry without being legally licensed to so practice in this State.

That the defendant did not have a license to practice dentistry in this State from the State Dental Board was proven at the trial by independent evidence as well as by the defendant's own admission. The defense was that the defendant was a practicing dentist in this State in 1872 and has been since that date, and that any statute which attempts to impose upon him a condition not existent at the time he entered upon such practice is unconstitutional because it (1) impairs his vested rights and (2) is *ex post facto*.

It is conceded that there is no justification for the indictment in this case except under Section 12 of the Act of 1898, entitled "An act to regulate the practice of dentistry in the State of New Jersey and to repeal certain acts now relating to the same." Approved March 17, 1898.

P. Laws, 1898, p. 119.

Prior to the passage of the Act of 1898 there had been statutes regulating registration for and the practice of dentistry, but none of these were in force when the indictment upon which the defendant was convicted was found, nor at the date alleged in the indictment as the time when the offense was committed. The Act of 1898 expressly repealed all previous acts on this subject. P. E., 1898, p. 128, Sec. 17. If, therefore, the Act of 1898 is unconstitutional in the respects alleged the conviction cannot stand.

The laws regulating dentistry are of later enactment than those regulating the practice of medicine, but the principles underlying their legality are the same.

A statute of West Virginia similar in import to the New Jersey Act of 1898, except that it regulated the practice of medicine was sustained as a valid exercise of the police power of the State by the Supreme Court of the United States.

Dust vs. West Virginia, 129 U. S., 114.

States vs. Creditor, 21 Am. St. Reps., 306.

Hackett vs. State, 105 Md., 250.

Nor is such legislation *ex post facto*.

Hawkes vs. New York, 170 N. Y., 189.

See generally text and notes in the second edition of the Am. & Eng. Ency. of Law, Vol. 22, pp. 781-782, and the cases cited.

The Constitution of New Jersey in no wise prohibits such legislation, in any respect in which it would not be equally interdicted by the Consti-



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tution of the United States, unless it can be said that such legislation interferes with the natural and unalienable right of "acquiring, possessing, and protecting property" guaranteed by Article I., par. 1, of our State Constitution.

A calling, business or profession, chosen and followed is property.

Barr vs. Essex Trades Council, 8 Dick., 101 (112).

Slaughter House cases, 16 Wall, 36 (116).

The Legislature can no more destroy a business by statute, without providing for compensation, than it can authorize a corporation to take a piece of real estate for public use, except upon compensation.

But does the Act of 1898 take the defendant's property or calling from him?

We do not so construe it or its effect.

It is simply a regulation of the use of one's property rights or business controlling the conditions under which it may be enjoyed or pursued. It is within the power of the State to place reasonable regulations upon the business or calling of any person.

The Court in *State vs. Creditor*, supra, says: "The power of the Legislature to regulate the practice of medicine, dentistry, or surgery is undoubted; it is an exercise of the police power of the State for the protection of the health and the promotion of the comfort and welfare of the people. It may provide that only those possessing skill and learned in these professions shall be permitted to practice; may prescribe the nature and extent of the qualifications required, and the rules for ascertaining and determining whether those proposing to practice come up to the statutory standard. If the regulations and conditions are adopted in good faith, and they operate equally upon all who may desire to practice, and who possess the required qualifications, and if they are adapted to the legislative purpose of promoting the health and welfare of the people by excluding from the practice those who are ignorant and incapable, then the fact that the conditions may be rigorous, impolitic, and unjust will not render the legislation invalid."

The following cases sustain the rule here declared:

State vs. State Med. Ex. Board, 32 Minn., 324.

Hewitt vs. Charm, 16 Pick., 353.

Eastman vs. State, 109 Ind., 278.

Hedderick vs. State, 51 Am. Rep., 768.

For eighty years New York has had such a statute and her courts held it valid.

Sheldon vs. Clark, 1 John., 513.

Arkansas has sustained a statute for the regulation of dentistry.

Goswell vs. State, 52 Ark., 228.



The defendant, conceding for that purpose that the Act of 1898 was valid, contends that he was practicing dentistry in the State in 1873 and he was by the act entitled "An act to regulate the practice of dentistry and protect the people against empiricism in relation thereto in the State of New Jersey," approved March 14, 1873, licensed by the State to practice dentistry by Section 9 of that act. This act created a board of examiners and provided that after its passage it should be unlawful for any person to engage in the practice of dentistry within the State unless such person be graduated and receive a diploma from the faculty of a college, chartered as in the act provided; and by Section 9 it was provided as follows: "Nothing in this act shall apply to persons who shall be engaged in the practice of dentistry in this State at the time of the passage of this act."

P. L., 1873, p. 52.

Two supplements were passed to the Act of March 14, 1873, one in 1880 and the other in 1884, but neither of these supplements affected the rights of the defendant here to practice his profession under the authority of Section 9 of the Act of March 14, 1873. The supplements of 1880 and 1884 are each amendments to Section 1 of the Act of 1873, and neither can be said to repeal by implication Section 9 of that act.

Laws of 1880, p. 31.

Laws of 1884, p. 102.

On April 7, 1890, a general law was enacted entitled "An act to regulate the practice of dentistry in the State of New Jersey."

P. L., 1890, p. 227.

By Section 11 of this act, the acts of 1873 and its two supplements of 1880 and 1884 were expressly repealed together with all acts and parts of acts inconsistent with the act of April 7, 1890. The Act of 1890 created "The State Board of Registration and Examination in Dentistry." It made the board, then existing under the Act of 1873, the first board under the Act of 1890.

By Section 3 of the Act of 1890 it was provided, "That it shall be the duty of every person lawfully practicing, or entitled to practice dentistry in this State at the time of the passage of this act, to apply to said board before the first day of January, 1891, to cause his name, residence, and place of business to be registered in a book to be kept for that purpose by the secretary of said board; and the said board shall issue to each person registered by it a certificate under its seal and the hand of its president and secretary setting forth that such person was, at the time of the passage of this act, lawfully entitled, by the laws of this State, to practice dentistry and is duly registered; the said board, for good cause shown, may register and issue its certificate thereof to any person applying there-



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for after said first day of January anno domini one thousand eight hundred and ninety-one; provided it shall appear to the satisfaction of said board that the person so applying was lawfully practicing, or entitled to practice dentistry at the time of the passage of this act, and that the refusal to issue such certificate will work hardship to said person so applying; the said board may demand from any person applying for registration and certificate, proof of his right to the same under this act, and may refuse to grant registration and certificate thereof to any person not lawfully entitled thereto."

By Section 4 any person refused registration might apply to the Supreme Court to compel the board to register him and issue a certificate.

By Section 9 of the act it is made unlawful under a penalty for "any person now (then) lawfully practicing or entitled to practice dentistry after January 1, 1891, without having first obtained the certificate of registration under the act."

The effect of the act was to require all persons entitled to practice, or practicing at that time, April 7, 1890, to register and take out a certificate of that fact before January 1, 1891. This gave parties entitled to so do about nine months within which to so do or forfeit their right except the board for good cause should grant the certificate after January 1, 1891.

This seems an entirely reasonable exercise of legislative powers and to give a reasonable time for compliance with the act to those then engaged in dentistry in New Jersey. A similar act which gave but three months for the registration of dentists, engaged in the profession at the time of its passage, was sustained by the Supreme Court of Rhode Island.

Battles vs. Board of Dentistry, 17 At. Rep., 131.

The defendant, admittedly, never registered or applied for registration and certificate prior to January 1, 1891.

On March 17, 1898, the act under which the indictment in this case was found was passed. That act may be considered a complete revision of the whole subject and to supercede and take the place of the Act of April 7, 1890. By Section 17 of the Act of 1898, the Act of April 7, 1890, is expressly repealed.

By Section 1 of the Act of 1898, it is enacted:

"1. The following persons only shall be deemed licensed to practice dentistry in this State:

"(a) Those who are now duly licensed and registered as dentists pursuant to law, and

"(b) Those who may hereafter be duly licensed and registered as dentists pursuant to the provisions of this act."

Section 12 of the act reads as follows:

"12. Any person, company, or association practicing or holding



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himself or itself out to the public as practicing dentistry, not being at the time of said practice or holding out legally licensed to practice as such in this State, shall be guilty of a misdemeanor and punishable upon conviction of a first offense by a fine of not less than fifty dollars, and upon conviction of a subsequent offense by a fine of not less than one hundred dollars or by imprisonment of not less than two months, or by both fine and imprisonment."

The defendant failed to register and take out his certificate from April 7, 1890, to March 14, 1898, and he was not entitled to practice dentistry in this State under Section 1 of the Act of 1898, when the indictment upon which he was convicted was found in May, 1902.

There were some exceptions to testimony offered in this case and the rulings of the trial Court thereon, but we have found no errors therein.

The judgment of the Cumberland County Quarter Sessions is affirmed.

Beta-Eucain Hydrochlorate.

Dr. Charles S. Tuller, of Shreveport, La., reports as follows his experience with beta-eucain hydrochlorate (*Dental Cosmos*).

In beta-eucain hydrochlorate we have, to my mind, not only the safest but also the best local anesthetic on the market today. After using it in over 343 cases of extraction and in numerous cases for the preparation of roots for crown and bridge work, I have yet to find the first case of sloughing or bad condition whatever in the mouth resulting from its use. Nor have I ever had a case of the slightest depression of the heart or of respiration resulting from the use of the drug. Most of the made-up solutions on the market are cocain solutions, needing some agents in their composition to preserve them and to prevent septic conditions. Most of them are more or less harmful, not to say dangerous.

Unlike cocain hydrochlorate, beta-eucain hydrochlorate is a carbon compound and not of vegetable origin. It is preferable to cocain in that its aqueous solutions are permanent and can be sterilized by heat without decomposition. This is due to its immediate derivation from pure chemicals instead of from vegetable sources.

Anesthesia is produced immediately and does not cause hyperemia of the mucous membrane. Vinci claims that its solutions possess moderate antibacterial powers and that it is relatively safer than cocain so far as circulation and respiration are concerned, being about eight times less poisonous. Poisoning and death are due to large doses. For dental purposes a 2 per cent solution will answer in every case. This may be prepared in any quantity by mixing the proper proportions of beta-eucain



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with distilled water, then bringing the mixture to the boiling point, which will make a perfectly clear solution. This solution, besides being perfectly stable, is slightly germicidal, and to be sure of perfect asepsis a little may be poured into a test tube and brought to boiling over an alcohol flame before using in each operation.

Germicides in Dentistry.
Formalin. Dr. Elgin MaWhinney conducted a number of bacteriological experiments to test the germicidal activity of various antiseptics, the following being an abstract from his report to the Chicago Dental Society. (*Dental Review*.)

Formalin. Formalin is probably the most potent germicide that can be used. Its dental uses are limited because of its extreme irritancy. I have used it in old chronic abscesses, but in nearly every instance severe pain and swelling resulted, which has induced me to abandon it except in weak dilutions in such agents as creosote.

Paraform. Paraform, a solid polymer, has been recommended. There is a class of cases where it is of value, if used with care. I refer to old blind abscesses on the roots of teeth containing small tortuous canals. It readily gives up formaldehyde gas, which is very penetrating. It should only be placed in the large entrance to the pulp chamber and not down in the root canals, and even then it stirs up some irritation. In coming to this conclusion, I have lost some teeth from its use, but if you are careful and use it as stated, you will find it of excellent value. In old chronic cases, where there is little or no pus discharge, but instead a thin ichorous fluid comes weeping down into the canal, cases that are not causing any great amount of pain but are sore and constantly annoying, in all such cases I get good results from this drug. It always increases the soreness and inflammation, which soon terminates in resolution. Perhaps the most valuable use for this agent is as a disinfectant in foul rooms, operating rooms where serious surgical cases are attended to, and of instruments, especially those used on syphilitic cases. Paraform tablets, for use in Schering's sterilizer, are both effective and convenient.

Sublamine. Sublamine is freely soluble in water, being in tablet form. I have used it in the strength of 1:500, and find it but very slightly irritating. It is a non-coagulant and penetrates much more deeply than bichloride. In all tests it proved much more efficacious than bichloride and is certainly much more agreeable to use. I most heartily recommend it for hand steriliza-



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tion, washing indolent ulcers, flushing the antrum, washing out chronic abscesses, disinfecting the skin before operations. I have used it therefore in my private practice as well as in the public dispensary. It is a chemical germicide, carrying pus into solution.

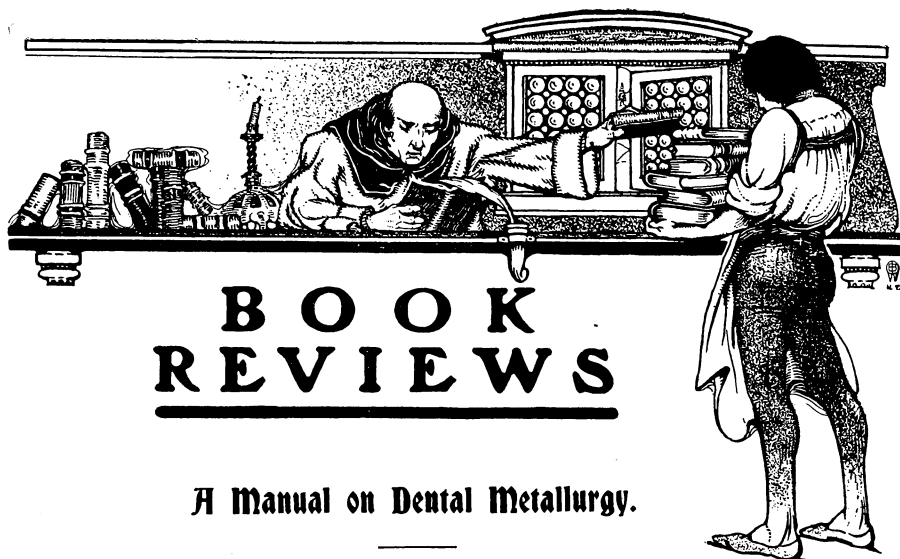
Trikresol.

Trikresol is a splendid germicide, as shown by my experiments, and an agreeable preparation. I have been using it about four years and now employ it in every condition where I formerly used carbolic acid or creosote. It is not so escharotic as phenol, will penetrate much deeper into vegetable cells, and will destroy spores. A 2 per cent solution is antiseptic. I recommend it to burn out old abscesses, as a dressing in acute apical pericementitis, in putrescent pulp, to relieve odontalgia, applied warm or almost hot. It penetrates the dentine as readily as the essential oils, but does not discolor it. A little (not an excess) is useful as a dressing after pulps are extirpated before filling root canals. To keep scalers and such instruments sterile while I use them, I keep them in a 10 per cent solution in alcohol and water. It is an excellent agent, used full strength, as a first treatment in pus pockets about teeth roots.

Kresamin.

Kresamin is the name given to a combination of ethylenediamine and trikresol, containing equal parts of each. It is a reddish liquid, has an agreeable odor, and is very slightly irritant. It is practically non-caustic and but feebly coagulant. It is powerfully germicidal, equal to 1-500 bichloride. I have used it lately in my clinic with most flattering success. I am satisfied that it is of value in acute or recent chronic abscesses. I wash through such abscesses freely with it. I have handed some of it to a few of my friends, and they are all delighted with the results. It is freely soluble and may be used as an antiseptic in dilute solutions. When brought in contact with thick pus kresamin seems to dissolve it immediately, turning it dark brown. In apical pericementitis from any cause it is of great value; applied to inflamed pulp it has an immediate quieting influence. I am sure of its efficacy in all inflammations accompanied with pus formation.





BOOK REVIEWS

A Manual on Dental Metallurgy.

By ERNEST A. SMITH,

Associate of the Royal School of Mines, London; Fellow of the Chemical Society and of the Society of Chemical Industry; late Assistant Instructor in Metallurgy, Royal College of Science, London.

Second Edition.

P. Blakiston's Son & Co. Philadelphia, 1903.

Price, \$2.00.

This little manual on Dental Metallurgy has been written to meet the latest dental examination requirements of the Royal College of Surgeons of England. In justice to the author, this must be borne in mind when reviewing his work. So far as the correlated sciences are concerned, these examinations are not particularly exacting. Indeed, the British dental educational system makes but little provision for systematic instruction in chemistry and metallurgy. Beyond that which the student may acquire in his preceptor's laboratory, he had, until very recently, but little opportunity of obtaining that special knowledge of chemistry and metallurgy which a dentist requires. This little work is intended to meet that deficiency in so far as metallurgy is concerned.

The author first gives a general outline of the physical properties of the metals; the action of certain agents which change their character, the acids, alkalies, and other oxidizing agents. He then treats of alloys, describes the various laboratory appliances used in metallurgy, and con-



siders in detail the metals with which a dentist has most to do, briefly noting their characteristics, combinations, and dental use. This constitutes the first part.

The second part occupies some thirty pages with suggested experiments, mostly of a very elementary character, to assist the student in acquiring a practical idea of the characteristics of the various metals, and the chemical processes by which they are detected, isolated, changed or combined, together with various tables usually given in this connection.

The work is well designed to give a novice a general idea of Dental Metallurgy.

It is, indeed, pre-eminently a student's book, and, as it has reached a second edition in a short time, undoubtedly fills a want by furnishing to British dental students, in concise form, the information which their examiners require.

W. H. T.

Success in Dental Practice.

A Few Suggestions Relative to the Most Approved Methods of Conducting a Practice.

By C. N. JOHNSON, A.M., L.D.S., D.D.S.,

Professor of Operative Dentistry in the Chicago College of Dental Surgery;
Editor of the *Dental Review*, and Author of "Principles and Practice of Filling Teeth."

J. B. Lippincott Company, Philadelphia and London, 1903.

Price, \$1.25.

This work forms a small octavo volume of 159 pages. It is addressed to beginners, but some of these suggestions, as the author states in his preface, may prove a benefit to many of extended experience. Beginning with the arrangement of an office, the reader is led up the various steps by which a successful practice is sought. Winning patronage; location; extending acquaintance; managing patients; records and bookkeeping; appointments and sittings; giving credit; collecting accounts; paying bills; fees; assistants; economy in purchase and in avoiding waste; bank account and investments; professional relationship and citizenship. His suggestion under these various heads are excellent; although open to criticism, in that they seem to have constantly in view conditions associated with a large city. Indeed, in treating of location, the author distinctly favors beginning in a small town, and removing to a larger place after a little experience has been acquired.





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What constitutes success in practice is an open question. The author's idea seems to be, a gathering in of wealthy and refined patrons who are able and willing to pay liberal fees. If this is accepted, opportunity to reach it is limited; there are not enough in that class to go round. There are, however, many things to be considered by a prudent, ambitious beginner, before making this his ideal. The annals of dentistry is not at all encouraging in this. Far too many who, during long and brilliant careers, have been society's idols, have become financially embarrassed when advancing years curtailed their earning ability. The usual explanations, unfortunate investments, extravagant living, want of business habits, etc., are only excuses, they do not explain. No matter how liberal may be a dentist's compensation, his ability to earn is hedged in on every hand. The value of his services to his patient far sooner reach their ultimate limit than do those of a lawyer to his client, or the surgeon's, on whose skill all that makes life worth living may depend. All he earns is earned with two hands and one head; all the assistance he can utilize adds but a mite to his earning ability; and, furthermore, his fruitful years are but few in number.

To acquire and retain a wealthy practice requires that the practitioner shall live approximately in the style his patrons do. His office and residence, his living and social expenses, will demand a large share of his receipts. There is a constant temptation to consider these expenses as capital invested that will bear interest by leading to more liberal fees, and to indulge the delusive hope that, shortly, the increasing fees will grow more rapidly than the expenses do. That time seldom comes. It is very hard to curtail luxurious habits, and sad to realize that vacancies upon the appointment book indicate the harvest is past—and nothing saved. Those who cater to the wealthy, and those who cater to the poor, feel most keenly the pinch when general business is depressed. The practitioner demanding a fair but moderate fee is apt to get it more steadily, his practice will stand by him longer, his necessary expenses are less, and he has a far better chance to continue to enjoy the fruits of his labors long after his working days are ended.

The fact, that of the seventy million residents of the United States, a vast number are dependent upon a meager weekly wage, and that comparatively few are able, however willing, to pay more than a moderate fee for dental services, will suggest to the thoughtful where may be found a promising field. Many a dentist has here gathered together a practice sufficiently remunerative to enable him and his family to live in comfort, to stand well with the community, to contribute freely to his profession's advancement, and to save, during his active years, enough to continue



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these when his working days are over. In regard to this the author seems to have taken too narrow a view. Success in practice may be achieved in more ways than one; it does not consist in ostentatious living; it is something more than ability to command large fees, and more than a mastery of the science and the skilful use of its resources.

The author's observations and suggestions under the various topics, merit a hearty and unreserved endorsement. That they reflect his own practice and experience, and would have been better if modeled upon broader lines, detracts but little from their value.

His suggested system of bookkeeping seems somewhat complex, but may not prove so in practice. He recommends that bills should be made out, "For Professional Services," not itemized, and suggests that the following explanation be placed upon the bill-heads: "A diagram is made of every operation. This, with a detailed statement of all accounts, is kept at the office, where the patient may examine it at any time." This is cumbersome. It would be sufficiently explicit if made to read, "The items of this account can be seen at the office," and looks better placed at the top of the bill than, as he suggests, as a foot-note at the bottom. The importance of promptly rendering bills cannot be too strongly urged upon beginners. The old custom of allowing them to accumulate for six months has nothing to commend it; the author's advice on this subject is excellent and timely.

Economy in purchasing, not only business supplies, but household and personal requirements, is best observed by promptly paying cash. The habit of "charging," as also the plan favored by the author, of leaving with the dealer a deposit to be drawn upon, leads to the purchase of many articles not really needed. The ten per cent deducted is only an apparent saving, not a real one. We realize the value of an article and our real need of it far more when counting out its price in dollars and cents than at any other time. His earnest appeal that the beginner set his patients a good example by promptly paying his own bills, of all kinds and character, should be heeded by all.

While a bank account has become a necessity with all business men, and every dentist should have one for many reasons, the author's suggestion, as far as convenient, to pay bills by check, is not commendable, nor are his reasons for so doing sound. A bill paid in cash, and properly receipted, closes the account. The transaction is ended. When paid by check, there still remains a long formula to be gone through with before that end is reached. It often entails a hardship upon the receiver, giving him more labor, and depriving him of the immediate use of that which is justly his. When the amount is large, and the transaction with a business house, this does not so strongly apply; it may be, indeed, a mutual con-





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venience. A dentist should be able to do his own bookkeeping, and be able to keep track of his outgo without the help of bank clerks.

His remarks upon investments should be of interest to all dentists, and deserves a careful reading. Of all men in the world, professional men should invest with care, making security of far more importance than a large interest. His advice upon this subject is sound.

The last chapter, upon "Professional Relationship and Citizenship," might have been profitably enlarged. The dentists in this country live too much to themselves. Our societies are not sustained as they should be, nor yet is the profession alive to its possibilities in its relations to the community. While many dentists have been credited with large earnings and much wealth, and have led ostentatious lives, and not a few have left large estates, the profession which has supplied all this has received nothing in return. The profession as a profession has lived from hand to mouth, as too many of its practitioners have done, dependent upon the living for all it has to show. It has but few libraries outside of private ownership, and none commensurate with its extended literature. It has contributed nothing to maintain or extend its educational institutions; all its schools are either business concerns, or side issues in universities in whose existence the dental profession has no part. While the profession has been clamorous for better educational facilities, it has failed to provide the means by which this can be supplied, and has compelled its poorly paid teachers to struggle on as best they can. A proper dental education cannot be supplied for the sum a dental student is able to pay. A commendable liberality on the part of the profession to place its most deserving schools upon a firmer financial basis would undoubtedly meet with a ready response from the community, as have like efforts by other professions.

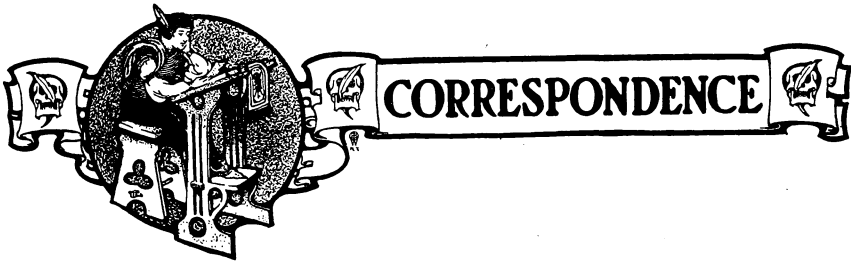
As a citizen, a dentist should, as the author says, "take cognizance of public affairs." It has been a source of much regret to note that so few dentists contribute to public charities, efforts for public improvement, and other like matters which call for financial endorsement.

The author fittingly sums up the whole matter in this closing paragraph: "To sum up the factors which enter into the making of a successful dentist, a man should not only develop his professional attainments to the highest state of perfection, but he must aim to provide for those dependent upon him by strict adherence to a sound financial policy in the conduct of his affairs, and in addition he must hold true to his obligations to the profession of his choice and to the commonwealth in which he lives. A dentist who fulfils these requirements to the best of his ability may be considered to have attained all in a material way which his particular lot

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in life permits of him, and of such a man it can never be truly said that he has lived altogether in vain."

It is, withal, a modest little work, well worth owning, one that may be read with pleasure and profit by young and old alike. W. H. T.



Trained Dental Nurses.

EDITOR ITEMS OF INTEREST.

In connection with the editorial in the July ITEMS OF INTEREST concerning dental training for nurses, it may be of some interest to the profession to know of my work in this field at the Englewood Training School for Nurses.

Having been appointed visiting dentist to the hospital, I was asked by the Board of Government to give a course of lectures to the nurses on subjects connected with the oral cavity.

The lectures were made as practical as possible, avoiding anything which could not be understood by the average layman. We started with a few minutes' talk on pregnant women, effect of pregnancy on bones and teeth, mentioning the treatment to be carefully followed to preserve the mother's teeth.

Then the deciduous teeth were taken up. Time of eruption, when to lance gums, why and how to preserve; their time of being shed and the diseases incident to their life were touched upon.

Then the structure of permanent teeth, time of eruption, etc., the six-year molars being dwelt upon and the necessity for impressing mothers in the care of that tooth in particular considering its usual early decay.

Abscesses and their treatment, antrum troubles and their treatment, the care of the mouth during fevers and other protracted illnesses, washes and powders, and a few simple remedies for toothache, both for an ex-



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posure and inflamed condition, and the subject of gums and the general aseptic condition of the mouth and the best antiseptic were also mentioned.

The lectures were listened to with a great deal of attention and interest was manifest in the entire subjects.

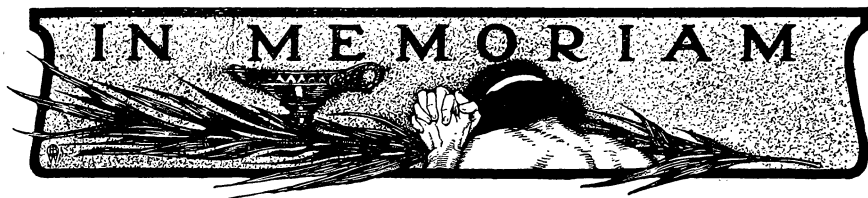
It would seem to me that no better way is open for general dissemination of dental knowledge than for dentists to help train nurses in this way.

These girls, who are without exception very intelligent, go into homes where a good general knowledge of dental hygiene will add very much to the comfort of their patients, and will also reflect honor on the dental profession, since the physician in charge and the patient will see that some dentist has given time and attention to the training of these most efficient helpers.

ROBERT ALEXANDER SHEPPARD, D.D.S.

Englewood, N. J.





Dr. T. O. Hills.

Dr. Thomas O. Hills, who for forty years practiced dentistry in Washington, died, aged seventy, at his residence, 1321 New York avenue, Northwest. Five and a half years ago Dr. Hills suffered a severe attack of rheumatism, and was for eighteen months confined to his home. The illness so begun proved to be the forerunner of his death. He was never able to resume his practice, although at times he was well enough to go out for a ride or for a walk. From the beginning of his attack of rheumatism he was a great sufferer. Bright's disease was later developed, and it was from that complaint, together with the disease from which he had previously suffered, that he died.

Dr. Hills was one of the first dentists to practice in Washington. He was born in Alexandria March 12, 1833, and moved to Washington when sixteen years of age. He became a bookkeeper for the firm of Clagett, Newton, May & Co., the predecessors of Schuster Bros., on Pennsylvania avenue. He was soon head bookkeeper of that establishment. When he was little more than twenty-one he began the study of dentistry under Dr. Bailey, shortly going to Baltimore to take a course in the dental department of the University of Maryland.

He was one of a dozen graduates in 1858, and when he returned to Washington the number of dentists practicing their profession could be counted on the fingers of two hands. From that time until his ill-health forced his retirement he continuously practiced his profession. Of those who were his contemporaries but three are now living—Drs. Smythe, Donaldson and McFarland.

Although entering the profession of dentistry in its early days, when so much was to be developed before it could reach its present state of advancement, Dr. Hills was always known as occupying a foremost position in keeping up with every development of the profession. Improved methods and apparatus found in him a prompt exponent.



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Dr. Hills began his practice about forty-six years ago in the building which stood on the present site of Ellis's music store.

After some years he moved to the northwest corner of Pennsylvania avenue and 12th street, where he remained for twenty years, or until sixteen years ago, when he moved to the house in which he died.

Dr. Hills numbered among his patients many of the men who have been foremost in every walk of life. He was one of the charter members of the Dental Society of the District of Columbia.

He leaves three sons, Drs. G. L. and J. B. Hills, both of whom are dentists, and Mr. P. B. Hills, an attorney at law.

May 5, 1903.

At a special meeting of the District of Columbia Dental Society the following resolutions relative to the death of Dr. Thomas A. Hills were passed:

Resolved, That in the death of Dr. Hills this Society and the dental profession at large have sustained the loss of a most valued member, whose many qualities of heart and mind endeared him to all who had the privilege of his acquaintance;

Resolved, That the Society extends its heartfelt sympathy to the family of the deceased; that a copy of these resolutions be sent them, and that this action be recorded upon the minutes of the Society.

J. HALL LEWIS, Chairman.

DANIEL MCFARLAN,

M. F. FINLEY, *Committee*.

Dr. Wm. A. Lyon.

At a called meeting of the District of Columbia Dental Society, held June 11, 1903, the following resolutions were read and adopted:

Whereas, It has pleased the Divine Creator to remove from our midst a professional brother, Dr. Wm. A. Lyon, whom, in a brief intercourse, had endeared himself to us,

Resolved, That the District of Columbia Dental Society, in special meeting assembled, express to his bereaved family the individual sympathies of the members;

Resolved, That in the death of Dr. Lyon this society has sustained a



loss of one whose zeal for his profession and the society will leave a void difficult to fill, the loss of one who as a man commanded respect and as a dental surgeon made his impress by his earnestness and zeal, for his chosen calling, by his equal readiness to impart to others and receive knowledge from them;

Resolved, That this society attend the obsequies of Dr. Wm. A. Lyon in a body and that a copy of these resolutions be forwarded to his family by the corresponding secretary.

Committee—Dr. H. C. Thompson, Dr. S. G. Davis, Dr. T. J. Jones.

CHARLES DIEDEL,

Cor. Sec'y.

Dr. D. C. White.

Dr. D. C. White died at Alton, Illinois, in the eighty-first year of his age. The Doctor had practiced his profession of dentistry in Alton for almost fifty years, having moved there from Concord, N. H., in 1854. Of late years his health had been feeble from advanced years. He was the oldest dentist in Alton and one of the oldest in Southern Illinois. His wife and one child, Mrs. H. G. Giberson, survive him. He has a brother living in Concord. Dr. White was born in that city in 1822, and came to Alton in 1854.

Dr. Otto Arnold.

The Columbus Dental Society passed the following resolutions on the death of Dr. Arnold:

Whereas, Death has again visited us and taken from us our friend and brother, Dr. Otto Arnold, and,

Whereas, With his death the profession at large has lost one of its prominent and earnest advocates whose presence was known in all its gatherings from the least to the greatest, and,

Whereas, In him we have ever found a member active in the interests of this society whose face and whose words were always gladly welcomed, therefore be it

Resolved, That we, the Columbus Dental Society, while of necessity



ITEMS OF INTEREST

yielding to the inevitable, deeply deplore his death, we earnestly unite with the bereaved wife and daughter in mourning his untimely loss and shall ever bear in kindest recollection the memory of our past association with him;

Resolved, That a copy of these resolutions be sent to the bereaved family; a record be made in the transactions of the Society and copies be sent to the dental journals.

A. O. ROSS,
F. R. CHAPMAN,
J. B. BEAUMAN, *Committee.*





SOCIETY ANNOUNCEMENTS

State Society Meetings.

Delaware State Dental Society, Sept. 2.

Minnesota State Dental Association, Minneapolis,
Sept. 1.

Northern Iowa Dental Society, Clear Lake, Iowa,
Sept. 2 and 3.

Ohio State Dental Society, Columbus, Dec. 1,
2, 3.

American Society of Orthodontists.

The third annual meeting of the American Society of Orthodontists
will be held on Dec. 30 and 31, 1903, and Jan. 1, 1904, in Buffalo, N. Y.
St. Louis, Mo.

ANNA HOPKINS, Sec'y.

Northern Iowa Dental Society.

The ninth annual meeting of the Northern Iowa Dental Society will
be held at Clear Lake, Iowa, Sept. 1, 2 and 3, 1903. All reputable dentists
of this and other States are cordially invited. A good programme is
assured.

C. L. TOPLIFF, Sec'y.

Decorah, Iowa.

Delaware State Dental Society.

A regular meeting of the Delaware State Dental Society will be held
on Wednesday, Sept. 2.

R. H. JONES, Sec'y.

Wilmington, Del.





Minnesota State Dental Association.

The twentieth annual meeting of the Minnesota State Dental Association will be held at the dental department of State University in Minneapolis on Tuesday, Wednesday, and Thursday, Sept. 1, 2, and 3. All dentists are cordially invited to attend.

GEO. S. TODD, Sec'y.

Lake City, Minn.

Idaho State Board of Dental Examiners.

The Idaho State Board of Dental Examiners will meet in Boise, October 12, 1903. Examination fee, \$25.00. For full particulars address the secretary.

W. W. PALING, Sec'y.

Mackey, Idaho.

Mississippi Dental Association.

At its last meeting, held in Vicksburg, the Mississippi Dental Association elected the following officers: Dr. J. B. Askew, Jr., Vicksburg, president; Dr. John S. Dupree, Holly Springs, vice-president; Dr. T. B. Wright, Hattiesburg, secretary; Dr. P. P. Walker, Brandon, assistant secretary; Dr. C. C. Crowder, Kosciusko, treasurer. The next meeting will be held at Jackson.

T. B. WRIGHT, Sec'y.

Hattiesburg, Miss.

Colorado State Dental Association.

At the annual meeting of the Colorado State Dental Association, held in the Brown Palace Hotel, Denver, Col., June 16, 17 and 18, many interesting papers were read and clinics presented. The following officers were elected for the ensuing year: President, Dr. E. W. Varley, Pueblo, Col.; vice-president, Dr. F. Y. Herbert, Denver, Col.; treasurer, Dr. Wm. Smedley, Denver, Col.; secretary, Dr. Harry W. Bates, 237 Majestic building, Denver, Col.

Very truly yours,

HARRY W. BATES.